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This study examined high school library websites for evidence of the use of Web 2.0 tools in order to answer two research questions: Are high school librarians incorporating Web 2.0 tools into their online programs and services and how are those tools being used to enhance programs and services? A content analysis was conducted on two samples: a random sample of 100 school library website homepages selected from Newsweek's 2008 list of the top 1300 public high schools in the United States; and the current websites from ten high schools used in Joyce Valenza's 2007 study of exemplary high school websites. The results of this study indicate that high school library media specialists need to do more to implement these tools on their websites to enhance their school library program.

Headings

School libraries -- High schools

School librarianship

Internet -- School libraries

Web 2.0

HIGH SCHOOL LIBRARIES USE OF WEB 2.0 TOOLS

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Introduction

The information skills required by today's students include the ability to navigate and contribute to the digital world. Internet technology has expanded to support highly collaborative learning environments, challenging traditional learning methods to adapt and implement these new technologies. The updated "American Association of School Librarians Standards for the 21st Century Learner" (AASL, 2007) notes that "technology skills are crucial for future employment needs." Many of these standards focus on accessing and sharing digital information:

- "Demonstrate mastery of technology tools for accessing information and pursuing knowledge" (AASL, 2007, p. 4).
- "Use technology and other information tools to organize and display knowledge in ways that others can view, use and access" (AASL, 2007, p. 6).
- "Solicit and respect diverse perspectives while searching for information, collaborating with others, and participating as a member of the community" (AASL, 2007, p. 6).
- "Contribute to the exchange of ideas within and beyond the learning community" (AASL, 2007, p. 6).

Today's students have access to a multitude of digital tools that enable them to be both consumers and producers of on-line content, including wikis, blogs, social networking sites, and social bookmarking tools. (For detailed definitions of individual Web 2.0 terms refer to Appendix C.) Collectively these tools are referred to as "Web 2.0"

and can be defined as “digital tools [which] allow users to create, change, publish, and share in an open, collaborative, participatory environment” (Berger, 2007, p. 2).

Prior to Web 2.0, the Internet was used by students primarily to locate and evaluate information. Web 2.0 tools enable students to participate in their own learning by interactively sharing knowledge, questions and discussions with others. Much has been written about how school library media specialists can use Web 2.0 tools to enhance their programs and services and engage students in a collaborative learning process (Johnson, 2006, Kirkland, 2007, Kroski, 2008, Richardson, 2006, Summers, 2009). However, there is little data showing if media specialists are following this advice and actually implementing these tools for students. This study will examine high school media center webpages in order to answer the following questions: Are high school librarians implementing Web 2.0 tools on their library websites and how are those tools being used to enhance programs and services?

Literature Review

There is little empirical research specific to Web 2.0 use in school library programs. Therefore, current research in three relevant areas is worth examining: 1) the impact the Internet has had on how young adults learn; 2) how Web 2.0 tools are being used in the classroom and what impact they have on teaching; 3) the implications of Web 2.0 technology for school librarians and information literacy curriculum.

The “Net Generation” and Learning

Generation Net, Generation Z, the Google Generation, the Internet Generation, iGeneration, Generation Web, all these terms have been used to describe the current group of students who have grown up with the Internet. The growth of wikis, blogs, social networking and other Web 2.0 tools means that students are already sharing information on-line. A Pew study, for example, shows that 64 percent of K-12 students have created some sort of Web 2.0 content on-line: 55 percent used a social networking site, 33 percent had created wikis and 28 percent had created their own blogs (Lenhart et al., 2008). A 2007 Pew study found that 93 percent of teens used the Internet and 64 percent have participated in content-creating activities such as website design, blogging, wikis, and photo and video sharing (Lenhart et al., 2007). These statistics show that Web 2.0 tools are already a part of students’ everyday lives.

Children and young adults today are considered to be completely different types of learners than their parents. In “Digital Natives, Digital Immigrants” (2001), Prensky contrasts today’s students with adults from prior generations. Having grown up with the Internet, today’s students expect to receive information quickly. They excel at multi-tasking, prefer to view graphics before print and perform best when networking (Prensky, 2001). The sheer volume of digital tools and media consumed by young people means that today’s students “think and process information fundamentally differently from their predecessors.” (p. 1). Prensky calls these students “Digital Natives”, native speakers of the digital language. He identifies older adults as “Digital Immigrants”. No matter how these adults adapt to the modern digital environment, they will always have what Prensky calls “one foot in the past” (p. 2). Digital Immigrants may become interested in new

technologies but they will retain old habits such as printing emails and consulting print resources before the Internet. Prensky considers the divide between these two groups “the single biggest problem facing education today... our Digital Immigrant instructors, who speak an outdated language (that of the pre-digital age), are struggling to teach a population that speaks an entirely new language” (p. 2). Prensky concludes that Digital Immigrants must be prepared to teach not only traditional content (reading, writing, critical thinking, etc.) but digital and technological content and the political, sociological and ethical issues that go along with that curriculum.

Rowlands et al. (2008) examined the shift in the information behavior of young adults to see how the Google Generation¹ currently interacts with digital information, how they are expected to interact in the future, and what the implications are for librarians. The authors studied literature from the last 30 years in order to compare the behaviors of the Google Generation with those of their predecessors (Generations X & Y). This exhaustive study noted some important conclusions about current young adult on-line behavior. Although young people have widespread knowledge of the Internet and Web 2.0 tools, they are not sophisticated users and often have difficulty developing appropriate search strategies. They also found that when students were “faced with a long list of search hits, young people find it difficult to assess the relevance of the materials presented...” (p. 295). A 2001 Pew study on the Internet and education showed that 71% percent of students use the Internet as a major source in their last school project, and only 24% percent used the library as a major source (Lenhart, Simon & Graziano, 2001). Both

¹ “The “Google generation” is a popular phrase that refers to a generation of young people, born after 1993, growing up in a world dominated by the Internet” (Rowlands et al., 2008, p. 292).

studies highlight a need for school library media specialists to ensure Web 2.0 tools are used not simply to engage students, but as an effective part of information literacy instruction.

Barnes, Marateo & Ferris (2007) report that today's students make conscious choices about learning styles, are more assertive information seekers and desire more active learning environments. In "Teaching and Learning with the Net Generation", the authors note that today's students are saturated with digital technologies which means that they have "distinctive ways of thinking, communicating and learning" (p. 1). Learners of the Net Generation show a desire for diverse forms of communication, interactive environments, and assignments that use new technologies to provide relevant learning experiences. These students are easily bored with traditional teaching methods, want more hands-on, active learning experiences and are less willing to passively absorb information. (Barnes et al., 2007). How are educators accommodating their teaching styles to the new learner? Barnes et al. note that many educators are moving from a lecture-based teaching style to more collaborative learning through discussion and interaction with information. Teachers are using Web 2.0 tools such as blogs, wikis, and online multimedia to "incorporate autonomous learning activities while also ensuring that sufficient classroom time is devoted to fostering information literacy and higher-order critical thinking skills" (p. 5). Web 2.0 tools enable learning to be more participatory, and leaders in the school library profession argue that school library media specialists must embrace these new technologies in order to remain models of collaborative learning (Valenza, 2007b, Loertscher, 2009, Baumbach, 2009, Johnson, 2006).

Web. 2.0 and Education

According to researchers, most of the studies on the use of the Internet in high school instruction have focused on how teachers and students use the Internet to retrieve static information and learning materials. These studies show the use of the Internet as a device to acquire information, rather than to develop and share information as a group (Heafner & Friedman, 2008).

Web 2.0 tools are different in that they not only allow information gathering but they are also highly social, enabling students to actively contribute to learning through collaboration. What Web 2.0 means for educators is that the Internet can be used to promote participation, engage students in a dynamic environment and create learners who are technologically prepared for life in a collaborative work environment (Heafner & Friedman, 2008).

Using a quasi-experimental approach, Heafner and Friedman (2008) examined the effects of student-created wikis on student engagement, cognitive benefits and short and long term student learning. Two secondary school social studies classes were studied. Taught by the same instructor, the teaching method in one class incorporated a wiki as an instructional tool and the other class was taught using standard teaching methods (lectures, readings). In the wiki-based classroom, students were required to create an individual wiki to be used as an electronic scrapbook. The students used the site as a final project to present information and display primary source images. The authors used a methodology they described as collecting data from classroom observation, teacher interviews, unit and post-test scores and student questionnaires. One of the cognitive benefits Heafner and Friedman explored was whether the use of wikis in teaching

facilitated a “constructivist (in terms of students as contributors of knowledge) learning environment” (p. 292). A constructivist approach to learning “holds that the learner, through interaction and experience with an object or process, creates knowledge. Instruction based upon constructivist theory places the student at the center of the learning environment, while the instructor serves as a guide or facilitator” (Allen, 2008, p. 21). Follow up interviews with students showed deeper content understanding which the authors attributed to the visual nature of the assignment and the fact that the students were active creators of learning content. Heafner and Friedman also observed a more collaborative learning environment within the wiki group with students initiating and answering questions and providing each other with feedback. Although qualitative data showed increased student engagement and motivation, unit test scores for the wiki group were lower than those of students from the traditionally-taught class. Heafner and Friedman noted, however, that students from the wiki class scored higher at the 8th month post-test than students from the traditional class, suggesting that the wikis may have a positive impact on retention. The authors concluded that in this case, use of a wiki as a learning tool fostered deeper engagement with the material, a more collaborative learning atmosphere, and increased long term content retention.

Hazari, North and Moreland (2009) conducted an exploratory study to examine the pedagogical value of wikis at the college level. For this study, the authors defined pedagogical value as “the capacity of students to be engaged in learning by exhibiting interest in course assignments, retaining more material, participating actively, being motivated learners, and collaborating using constructivist learning principles (such as group interaction)” (Hazari et al., p. 188). Hazari et al. chose to look at wiki technology

because it facilitates interactive learning. Specifically, Hazari et al. sought to answer the following questions: “1) What factors contribute to pedagogical value of wiki technology? 2) What is the relationship between these factors?” (p. 188)

The test group for this study was the students from four college business classes (taught by the same instructor) where a wiki was assigned as a collaborative tool. An on-line survey was used to measure four constructs to determine the pedagogical value of wiki technology (PVW): learning/pedagogy, motivation, group interaction, and technical features such as ease of use and user interface. Factors such as age, gender, work experience and web development experience were measured to see if they had an impact on the students’ satisfaction with the technology. Survey questions used to determine PVW included: “Use of the Wiki enhanced my interest in the course” and “I will continue to explore use of Wikis for education” (Hazari et al., 2009, p. 193).

Research results found little correlation between age or web development experience and PVW. A moderate correlation was found between gender and PVW score, with males scoring higher than females. This was found to be consistent with other research showing that males spent more time on the Internet than females and may be more comfortable with the technology (Hazari et al., 2009, p. 194). The authors concluded that wikis can promote collaboration in group learning and make students comfortable with using these new technologies for learning. However, they point out the need for additional research into how these technologies relate to student learning and what disciplines and learning styles would best benefit by the use of these tools. This study raises some important issues in how wikis are implemented in classrooms and what factors may influence Web 2.0 tools’ effect on student learning, however, it does not help

educators understand whether use of the wiki will produce a higher level of student understanding over traditional teaching methods.

Ellison and Wu (2008) looked at student's perceptions of blogging in the classroom to determine what aspects of blogging were most helpful to learning: student's own writing, reading other students' blog entries, or reading students' comments on their own blog. The authors also examined perceptions of blogging itself as an educational activity. Ellison and Wu consider blogs to be well-suited to learning environments because writing skills are critical to learning and the collaborative aspects of blogging enable students to engage with divergent opinions. These two elements have the potential to have a positive impact on analytic and critical thinking skills. Ellison and Wu hypothesize that because blogging exposes student's writing to a wider audience, this might cause students to "attend more carefully to online writing opportunities" (p. 106). It should be noted, however, that the type of casual and informal writing that blogging promotes may be considered a limitation by some instructors and students. As the authors point out, this less formal writing style may "result in less focused writing and editing effort" (p. 117).

The Ellison and Wu study took place in an undergraduate course on the social aspects of new communication technologies at a large Midwestern university. The students completed a series of six writing assignments. Half the assignments were turned in as traditional papers and the other half were submitted as blog entries. For two of the blogging assignments, students were also required to comment on other students' blog entries. Online surveys were posted after each assignment in which the researchers sought to gather the following information: demographic data, questions intended to

measure students' perception of how helpful aspects of the assignment were in supporting topic understanding, open-ended items to gather perceptions about the assignments, and behavioral and comprehension information (including a multiple choice quiz on concepts from the readings).

Ellison and Wu's results showed that among blogging activities, students noted that reading other students' blogs was significantly more helpful than writing their own blog or reading others' comments on their blog. Analysis of the open-ended questions showed that students found the blogs generally favorable due to the uniqueness of the assignments and the convenience of writing online. Comments showed that most students preferred the more casual tone of the blogs compared to formal papers. They also found the interactive nature of the assignments appealing and liked being able to read other students work to gain different perspective on topics.

Ellison and Wu described students comments as "primarily enthusiastic yet also wary and ambivalent" (Ellison & Wu, 2008, p. 115). Some students found negative aspects of the blogging assignment such as the potential for negative feedback from their peers or the discomfort of commenting on others' work. In addition, some students felt that reading other students' blogs did not contribute to helping them understand the course content. Unfortunately, the data collected regarding student comprehension (taken from quiz results) were deemed unreliable due to variations in questions and reading assignments. This information would have helped researchers measure whether the blogging activity led to deeper content understanding. One of the authors' conclusions was that the "peer to peer learning potential of blogging needs further study" (p. 116). The collaborative nature of wikis and weblogs can enhance student engagement,

motivation and enjoyment but it is important to know whether these tools also impact student achievement through content understanding.

Luckin et al. (2009) published one of the few research studies on young adult's use of Web 2.0 tools in schools. This study examined the activities and perceptions of learning with Web 2.0 tools among 11 to 16 year old students in the United Kingdom. The authors looked at the types of Web 2.0 technologies that the students had access to, what were those tools used for, what types of users could be identified from the data and what differences there were between school and non-school technology use. Luckin et al. collected data from two sources. The first source was a guided survey of over 2,600 students in which a PowerPoint presentation demonstrating the structure of the online survey and a discussion of Web 2.0 terminology ("blog", "wiki", "social networking", etc.) was used. The second source of data was transcripts from 60 focus groups held at 22 of the schools.

Research results regarding what Web 2.0 tools were used by the students was not surprising. Social networking, photo and video sharing, email and instant messaging were widely used in their lives at home. Many students reported using wikis for Internet research but very few had ever posted to a wiki. Blogging was not widely used but was mentioned as being motivating for the few learners who had used it in the classroom. Based on responses on how the students used many Web 2.0 tools, Luckin et al. (2009) were able to identify three different types of users.

- Researchers--students who used the Internet mainly for retrieving information and gaining knowledge. These students regularly used the Internet for research but rarely used Web 2.0 tools in that way.

- Collaborators--students who used online networks to connect with peers, teachers and other experts. Although Web 2.0 tools offer an exceptional opportunity to work collaboratively, few students had actually used wikis or blogs to work together on projects with other students. The students' online collaboration mostly involved chatting with students or teachers about homework or projects.
- Producers and Publishers--students who created content in various forms (photos, videos, music, etc.) or published text online in the forms of wikis or blogs.

Despite the opportunities Web 2.0 provides for students, relatively few were producing and publishing their own online content outside of the social networking sites (Luckin et al., 2009, p. 94-98).

When the authors compared Web 2.0 use in and out of school, they found that most students' use of these tools at home far outweighed their use at school. Luckin et al. (2009) concluded that although there was a high level of usage of social networking and file sharing sites, students were not using collaborative Web 2.0 tools such as blogs and wikis. Of highest concern to researchers, most students were not using any of the tools in a meaningful way. "The types of activity revealed by the data illustrated little evidence of critical enquiry or analytical awareness, few examples of collaborative knowledge construction, and little production or publishing outside social networking sites" (p. 100). This study is a reminder for teachers and librarians that Web 2.0 use must be applied meaningfully and they need to discriminate meaningful use from simple adoption of whatever digital technologies are popular.

Web 2.0 and School Libraries

With the rapid development of new forms of information and communication technologies, school libraries are at a crossroads. As the AASL Standards for the 21st Century Learner state “The definition of information literacy has become more complex as resources and technologies have changed” (AASL, 2007, p. 3). The Net Generation learns in a new way and school libraries must transform to meet their needs.

According to Asselin and Doiron (2008), “the literacy education provided in the past by parents and teachers will no longer equip people for success in the altered world in which we live” (p. 1). There are now multiple literacies that students must master to successfully participate in society and the workplace. Asselin and Doiron identify five new literacies for the Net Generation: technology literacy, critical literacy, ethics and social responsibility, inquiry and problem solving, and creativity and representation (p. 13). These literacies include such skills as navigating Internet sites, communicating using tools like social networks, determining authenticity and bias, assessing tools for their learning needs, using new technologies to creatively express knowledge. Asselin and Doiron point out that if school libraries do not respond to the shift in learning and the focus on multiple literacies, then they “run the risk of being completely ignored by our children and youth” (p. 13).

Naslund and Guistini (2008) argue that by promoting Web 2.0, media specialists “can play prominent roles in K-12 schools and raise awareness of relevant pedagogies for the iGeneration” (p. 55). They examined several Web 2.0 tools to see how they could best be used in teaching and learning.

Blogs were described as being used in “reflective learning” such as online journaling and collaborative class work (Naslund & Guistini, 2008, p. 57). They found that some school libraries were using blogs as their primary webpage to share information, programs and policies. Blogs were also used in writing instruction and building research skills. The authors noted that prominent librarian and blogger Joyce Valenza encourages blog use by her students to help them organize and share their research.

Naslund and Guistini (2008) found wikis were most commonly used by educators as a collaborative writing tool, a place where students could create their own learning content. Wikis were found to be a typical way that educators share ideas among themselves, thereby modeling collaborative learning.

Finally, Naslund and Guistini (2008) examined social media-sharing tools such as Flickr and YouTube. The authors see these as powerful tools with which to visually engage students and promote the use of multimedia in student presentations; however they discussed no specific examples of how these were being used by teachers and media specialists.

Because of their collaborative nature, Web 2.0 technologies are valued as meaningful ways for media specialists, teachers and students to work together (Achtermann, 2006, Baumbach, 2009). However, some research shows that media specialists may not be adequately prepared to use these tools. In “Web 2.0 & You”, Baumbach (2009) surveyed 631 teacher-librarians to analyze their knowledge of Web 2.0 tools and identify opportunities for professional development. Some of the tools included in this study were blogs, wikis, podcasts, social bookmarks, RSS feeds and social

networking. She attempted to answer a number of research questions related to who was using these tools and what they were using them for. Baumbach found that although many teacher-librarians knew about Web 2.0 tools, many had never used them. In fact, less than 30 percent reported that they accessed these tools for their own use and even less used them in teaching and learning. Seventy percent had not taught anyone how to use a blog, wiki or podcast.

Hughes Hassell and Hanson-Baldauf (2008) surveyed North Carolina school library media specialists to examine their use, knowledge and understanding of information and communication technologies (ICTs). These technologies included Web 2.0 tools such as blogs, wikis, podcasts and web design tools. The authors found that the majority of media specialists surveyed only “rarely or occasionally” used those technologies. Hughes Hassell and Hanson-Baldauf found that a number of barriers existed to prevent media specialists from integrating new technologies into instruction, including:

- A lack of time and resources—many media specialists mentioned the lack of time to not only learn new things but to plan instruction to incorporate those technologies. Respondents mentioned resource needs such as adequate technology support and administrative assistants to free them for planning and teaching time. Some schools reported continued problems getting adequate computer hardware and software.
- A lack of adequate technology infrastructure—media specialists mentioned technical difficulties such as connectivity and adequate bandwidth.

- Restrictive school district policies and procedures—district internet filters were identified as a key barrier to implementation. Many districts block access to blogs, social networks, video sharing sites and other Web 2.0 tools.
- A lack of professional development—some respondents reported that their district did not provide the necessary training to encourage teachers and media specialists to integrate new technologies into instruction.

In another study, Hanson-Baldauf and Hughes Hassell (2009) examined whether prospective media specialists were “adequately prepared for the task of integrating technology and skills into instruction” (p. 3). The study included a survey of 298 students studying school library science to determine their level of knowledge about a wide range of technologies. A high percentage of respondents reported “unfamiliarity” or the “lowest level of competency” with Web 2.0 tools such as podcasts (79%), wikis (61%) and blogs (59%). Sixty nine percent reported low levels of competency with social networks such as Facebook and MySpace (p. 6). According to Hanson-Baldauf and Hughes Hassell, these finding are important because the technology training that school library students receive will determine how those students incorporate technology, including Web 2.0, into their own instructional practices.

Much has been written about how school libraries should include Web 2.0 tools in teaching and learning (Achterman, 2006, Aharony, 2009, Baumbach, 2009, Bolan, Canada & Cullin, 2007, Kroski, 2008, Stephens, 2006, Summers, 2009), however there are few studies about what media specialists are doing in that regard. This study was undertaken to help address this gap between theory and practice.

Methodology

This study examined the content of high school library websites for evidence of the use of Web 2.0 tools and analyzed how these tools are being used by media specialists to enhance their library programs. Content analysis is an appropriate method to use to examine Web 2.0 use by high school library media specialists because one of the places where use of these tools should be evident is on the school library website. One of the benefits of content analysis is that it is unobtrusive. Unlike interviews, questionnaires and experiments, researchers can examine content without involving a human subject. It is therefore unlikely that the act of measuring a phenomenon will instill some change that may impact the data (Riffe, 2005, Berg, 2009). Furthermore, defining the content to be analyzed is determined by the researcher and will be therefore more consistent than other methods. The use of a questionnaire, for example, might expose differing opinions about what is considered a “wiki” or a “social bookmarking tool” and weaken clarity of the corresponding results.

Content analysis does have a few important limitations, particularly when it is applied to web content. Because web content is not static, measurement could potentially differ from one day to the next. Links to student projects may be up until the project is done, then they may be removed. Another problem with analyzing web content is that some library content may require authentication such as a school login or password and the researcher may be blocked from viewing the content.

Sample

This study utilized two samples. A large sample was examined in order to collect evidence regarding Web 2.0 use by high school media specialists. A smaller sample was subsequently examined to provide descriptive data on how these tools are being used.

The large sample was compiled using Newsweek's 2008 rankings of the top 1,300 public high schools in the United States (Matthews, 2008). (This sample will be referred to as the "Top Schools" sample.) The rankings are based on a "Challenge Index", which is calculated by taking the number of Advanced Placement (AP), International Baccalaureate (IB) or Cambridge tests given in a school year, and dividing it by the number of graduating seniors. According to Matthews, these tests are important because studies show that one of the best predictors of success in college is an "intense academic experience in high school" produced by taking high level math, English and AP courses (2008). Matthews argues that although there is more to a quality high school than AP and IB tests, those other factors (such as extracurricular activities or teacher quality) are too subjective and cannot be easily measured. Schools that were considered to be too "elite" (students scored significantly higher than average on SAT scores) were pulled from the rankings because the intent was to rank schools that were doing a good job of challenging the average student.

A sampling frame of 100 school library home pages was created by using a random number generator to select 150 schools from the numerically ranked Newsweek list just described. Due to adjustments made to the list post-publication and to statistical ties in the data, the final sample was pulled from a list of 1,426 schools. One hundred fifty random numbers were generated with the expectation that a school library home

page may not be located in each case. The presence or absence of a school library website was tested by doing a Google search for the high school name and examining the high school home page for a link to the school library home page. If a link was not found, the absence of a link was noted and selection continued until a sample of 100 school library home pages was reached (see Appendix A). If the library homepage appeared on a dropdown menu, it was counted as a link as long as that menu appeared without clicking to a submenu. Links to dead pages or pages that require authentication were counted as having no school library home page.

The second sample was created for the purpose of examining a smaller group of high school library websites in greater detail. This was a convenience sample taken from a 2007 study by Joyce Valenza and will be referred to as the “Valenza” sample (see Table 1). Although the Valenza study sought to determine what attributes made up an exemplary school library website, this same list is useful in this study of Web 2.0 tools because it is expected that school library programs with exemplary websites would also demonstrate representative evidence of these new technologies.

Table 1 – Valenza study sample of “exemplary” high school library websites

School	Location
Carthage Senior High School	Carthage, MO
Glennie Information Resource Centre	Queensland, AU
Greece Athena (Middle/High School)	Rochester, NY
Hunterdon Central High School (IMC)	Flemington, NJ
Lawrence High School	Lawrence, KS

New Trier High School	Northfield/Winnetka, IL
Newton North High School	Newton, MA
Northfield Mount Hermon Library	Gill, MA
Springfield Township High School	Erdenheim, PA
University Laboratory High School	Urbana, IL

Valenza (2007a) used a Delphi process to select ten “exemplary” school library websites. The Delphi method involves anonymous, consecutive rounds of questions posed to experts whose opinions are relevant to the study. In this case the panel of experts was asked to identify exemplary school library websites. The Delphi panel of 22 academics, authors, presenters and practitioners nominated a total of 68 sites, from which the top ten were chosen and subsequently ranked by the same panel. The final list contained both public and private schools. Two were combined middle and high schools; nine were located in the United States and one in Australia. Due to the possibility that website URLs can change, each of these exemplary sites was located with a Google search for the school name, and then the school home page was analyzed for a link to the school library website.

Coding Scheme

In order to develop the coding scheme for this study, it was necessary to identify the Web 2.0 tools that were considered to be relevant and to organize those tools into categories. Although there is no authoritative list of recommended Web 2.0 tools for school librarians, a wiki created by Baumbach and Lee from the University of Central

Florida, “WebTools4U2Use”, is mentioned in both school library literature and on blogs as being a comprehensive and valuable resource for school librarians regarding Web 2.0 (Johnson, 2008, Valenza, 2008, Naslund & Giustini, 2008, Abram, 2008).

“WebTools4U2Use” contains a categorized list of tools that originated from a 2008 survey of 600 media specialists about their use of Web 2.0 technologies (Baumbach, 2009). This categorized list appears in Appendix B.

The coding scheme for this study was developed from this list and appears in Appendix C. In the coding scheme, the definitions provided on the WebTools4U2Use website were used to distinguish Web 2.0 tools from other technologies. For example, tools such as YouTube were identified and coded under the WebTools4U2Use category “Video Tools and Video Sharing”. Although Twitter has been described as a “micro-blogging” tool, WebTools4U2Use listed Twitter under both blogging and social networks. For the purposes of this study, Twitter was included under social networks. To ensure that the list was exhaustive, the category “other” was added to the coding scheme. Because the list is static, the categories were based on what was listed on the site on Dec. 10, 2009. However, when questions arose about categorizing a tool, the current WebTools4U2Use site was searched to help determine whether the tool was considered Web 2.0 and how it would be classified.

Procedures

Both the Top Schools and Valenza samples were first checked for the existence of a direct link to the school library website on the school’s home page. Then each sample was examined again and coded using the appropriate codebook (see Appendix C and D)..

When examining the “Top Schools” sample, only evidence of tools or links to tools on the school library home page was noted. No links or subpages were checked.

To gather descriptive data about how Web 2.0 tools are used to enhance programs and services, the Valenza sample was examined in greater detail (see codebook in Appendix D). The library home page and two subsequent levels below were analyzed. Information about Web 2.0 tools and how to use them were not counted as “use” by the librarian. For example, information about how Facebook or Twitter works did not count as “use”, however a link to the school library Facebook page did count as “use”. Links to subscription-based online video tools (such as United Streaming) and blogs written by professionals other than library staff were not counted. The instrument used to collect data for both samples can be seen in Appendix E.

Limitations

There are advantages and disadvantages to the sampling and methodology used in this study. First, although random sampling was used to generate the large sampling frame (“Top Schools”) and a similar sample could be recreated using the same population, it is acknowledged that this population of high schools is not a representative sample of all public high schools in the United States. This population represents only about five percent of the 27,000 high schools in the country (Matthews, 2008). Given that there is little research in the area of Web 2.0 use and school libraries however, it is valuable to be able to see what media specialists in the top ranked high schools are doing.

Another sampling limitation involves the use of school websites considered “exemplary” in the Valenza sample. Joyce Valenza is the media specialist at Springfield

Township High School in Pennsylvania, which was selected by the Delphi panel as an exemplary high school library website (Valenza, 2007a). Valenza is also an established author and leader in the school library field and has written extensively on the subject of Web 2.0 tools. It is therefore expected that her school library website will use Web 2.0 tools with more frequency than other schools. Inclusion of her school in the sample could potentially skew the results to show more overall usage of these tools.

The first part of this study (Top Schools sample) examined only what was clearly a Web 2.0 tool on the library homepage without clicking on those links. In order to be counted, tools had to be clearly labeled as “wiki”, “blog”, “Facebook” or “Twitter”. In cases such as calendar, task management, or productivity tools, the tool used may not be obvious unless a link was clicked. It is therefore acknowledged that some tools may be in use by these libraries that are not clearly evident on the library’s home page. A similar limitation exists with the Valenza sample. Although three levels of the school libraries websites were examined with that sample, it is possible that use of these tools may be in evidence somewhere other than the library website (at a teacher’s webpage for example).

Finally, this study also does not intend to make any conclusions about the quality of the use of these technologies. Although the descriptive data collected on the Valenza sample will require subjective interpretation, the researcher will not attempt to analyze that data in terms of quality of the tool beyond how it is used to enhance programs and services.

Results

Top Schools Sample

Of the 100 schools in the Top Schools sample, only 23 of the school library websites showed evidence of the use of at least one Web 2.0 tool (see Table 2). Of the 23 schools, only six showed evidence of using more than one tool. Four categories of Web 2.0 tools showed no use and 12 of the 14 categories were evident at 3% or less of the schools. Evidence of the use of blogs and wikis occurred most frequently—14% and 5% respectively (see Table 2). Complete data from the Top Schools sample appears in Appendix F.

Table 2 – Top Schools Sample Evidence of Tools Use (n=23)

Schools	Tools		Schools	Tools
Douglas Matthews	Blogs		Grayson	Blogs
Corcoran	Blogs		New Paltz Central	Blogs, portal/ webpage starting tools, quiz & polling
Berkeley	Blogs		University City	Portal/ webpage starting tools
Riverbend	Blogs, presentation		Inglemoor	Social networking
Elk Grove	Blogs		Conestoga	Wikis
Northwest	Audio/podcasting, blogs, social networks		Riverside	Blogs
Middletown	Social networks		Mountain View	Wikis
Rampart	Wikis		Menchville	Audio & podcasting, video & video sharing, wikis
Willowbrook	Photo/ photo sharing		White Station	Blogs
Lawrence D. Bell	Blogs		St. Augustine	Audio & podcasting, blogs
Eastchester	Blogs		Bella Vista	Blogs
Victor Central	RSS, news feeds & aggregators			

Table 3 – Frequency of Tool Use (n=100)

Web 2.0 Tool	Number and Percent of Schools with Evidence of Use on Library Home Page
Audio & Podcasting	3 (3%)
Blogs	14 (14%)
Calendars & Task Management	0 (0%)
Drawing, Charting & Mapping	0 (0%)
Photo/Photo Sharing	1 (1%)
Portal/Webpage Starting Tools	2 (2%)
Presentation	1 (1%)
Quiz & Polling	1 (1%)
RSS, News Feeds & Aggregators	1 (1%)
Social Bookmarking	0 (0%)
Social Networks	3 (3%)
Video & Video Sharing	1 (1%)
Wikis	5 (5%)
Word Processing & Productivity	0 (0%)

This examination of Web 2.0 use by the Top Schools sample clearly shows that few school libraries are incorporating these tools into their library websites, or at least there is little evidence of use on the library home pages.

Valenza Sample

The Valenza sample originally consisted of 10 schools, however a website could no longer be located for the Glennie Information Resource Center in Queensland, Australia so the final sample for this study consisted of only nine school library websites.

Table 4 shows the tools used by each school and table 5 summarizes the frequency of tool use. Interestingly, two schools in the Valenza sample (Carthage and Greece Athena) showed no evidence of the use of any Web 2.0 tools. Specific uses of the tools are discussed in the following section. Data gathered for the Valenza sample appears in Appendix G.

Table 4 – Valenza Sample Schools Evidence of Tools Use (n=9)

Schools	Tools
Carthage Senior High School	None
Greece Athena (Middle/High School)	None
Hunterdon Central High School (IMC)	Audio & podcasting, quiz & polling, wikis
Lawrence High School	Audio & podcasting, blogs, drawing & charting, presentation, social networks, video/video sharing
New Trier High School	Blogs, portal/webpage starting, social networks
Newton North High School	Blogs, social networks, video/video sharing, wikis, word processing/productivity
Northfield Mount Hermon Library	Blogs, social networks, word processing/productivity

Springfield Township High School	Blogs, drawing/charting/mapping tools, photo/photo sharing, portal/webpage starting, presentation, quiz & polling, RSS feeds & aggregators, social networks, video/video sharing, wikis, word processing/productivity
University Laboratory High School	Blogs, photo/photo sharing, social networks, video/video sharing, wikis, word processing/productivity

Table 5 – Frequency of Tool Use (n=9)

Web 2.0 Tool	Number and Percentage of Schools with Evidence of Use on Library Home Page plus 2 Levels
Audio & Podcasting	2 (22%)
Blogs	6 (66%)
Calendars & Task Management	0 (0%)
Drawing, Charting & Mapping	2 (22%)
Photo/Photo Sharing	2 (22%)
Portal/Webpage Starting Tools	2 (22%)
Presentation	2 (22%)
Quiz & Polling	2 (22%)
RSS, News Feeds & Aggregators	1 (11%)
Social Bookmarking	0 (0%)
Social Networks	6 (66%)
Video & Video Sharing	4 (44%)
Wikis	4 (44%)
Word Processing & Productivity	4 (44%)

Blogs

One of the tools most frequently used by the sample schools were blogs. Six schools used at least one blog, predominantly for book reviews, recommendations, awards, library news and events, resource suggestions, student profiles, and some discussion of pop culture. New Trier Library's site showed the use of four different blogs, two of which were about new technologies and were clearly aimed at professionals such as teachers, librarians and technology specialists. The library website at Springfield Township included a link to Joyce Valenza's professional blog, which is published by *School Library Journal*. Blogs were also used at Springfield to archive links to video instruction from various sources – YouTube, TeacherLibrarianNetwork and student created videos. There were examples of this in math, grammar and information fluency instruction.

By comparing the blog contributors with a library staff list, it appeared that the majority of contributors to the blogs were school library staff. A blog at Lawrence High School and one of four blogs at New Trier showed contributors that could not be identified due to the use of anonymous names such as "David" and "pinkie3".

Although Northfield Mount Herman Library had a library blog, it also used blog-like software called "LibGuides" to organize its pathfinders. This tool did not appear anywhere on the WebTools4U2Use website, however because of its Web 2.0 capabilities, it deserves mention here. "LibGuides" (designed and sold by "Springshare") is a tool that allows you to create pathfinder-like webpages that operate somewhat like blogs. Clickable tabs allow the librarian to organize resources, citation information and assignment links specific to each topic. In addition, each "LibGuide" allows comments to

be posted, a user can subscribe to RSS feeds of updates to the “LibGuide” page, and users can share the information to social networking and social bookmarking sites.

Social Networks

The other Web 2.0 tool category used most frequently was social networks. The same schools that used blogs also used either Facebook or Twitter or both. Interestingly, these social networks were used for the same purposes as blogs – to share library and local events information, resource and book suggestions, new book or video announcements, links to things of interest on the web and invitations to view student projects at the library. In each case, the library Facebook page was set up so students and other users could become “fans” of the page. This meant that announcements would show up on their own Facebook pages, but the person in charge of the library Facebook page could not “friend” students or see students’ Facebook profiles, therefore protecting student’s privacy. Twitter was used by six schools in the sample in the same way as Facebook, to make announcements, suggestions and send out links to things of interest. Both Facebook and Twitter were used by the librarians to advocate for libraries and the library profession.

Three of the schools used LibraryThing, a book club and online cataloging tool that was considered social networking by WebTools4U2Use. New Trier and University High used LibraryThing to organize book lists for users while Newton North included a link to the librarian’s personal reading list. Springfield was the only library website to show use of a Ning, a social network that can be created and customized for personal, professional or educational use.

Wikis

Wikis were used by four of the Valenza sample libraries. Two of the schools used wikis for book clubs or as a site where readers could share book recommendations and favorite reads. Three others used wikis almost as pathfinders, places where the librarian, teacher and/or students could post class resources, discussions and assignments. Most of the wikis had been edited by multiple people although the wiki at University High School library could not be edited or commented on without sending a request to join the wiki.

The most wikis were used by Joyce Valenza at Springfield Township Library, who has recreated the high school library website using wiki software. The intention of wikis is to enable users to collaboratively build a website. Although there was some evidence of changes by other users in the “history” of the wiki, the vast majority of edits were done by Valenza. The use of wikis to build the school library website also enabled visitors to post discussions and some small evidence of discussion was noted.

Word Processing Tools

Four of the school libraries in the Valenza sample showed evidence of using a word processing or other productivity tool. The tools used were limited to Google Docs and Google Spreadsheet and were used to post on-line surveys or questionnaires, to embed a slideshow into a webpage, to provide forms to fill out and submit, and to provide access to an on-line library schedule.

Video Tools

Four of the sample school libraries appeared to be using video tools to both display student work or to demonstrate or provide instruction. For example, Newton North's site included links to student created videos on YouTube for a history project. At Valenza's Springfield Township site, a YouTube video was imbedded into a wiki page on search tools to demonstrate Google search options. Videos from YouTube, Teacher Librarian Network and student-created videos were also used at Springfield in online lessons to demonstrate and instruct curriculum topics such as grammar, math and information fluency.

Miscellaneous Tools

The following tools were found to be used by only two of the sample schools: audio and podcasting, drawing & charting, photo sharing; portal/webpage creation, presentation, and quiz/polling. Lawrence library included a link to a student written podcast that was posted to a local newspaper and Hunterdon IMC used a podcast to describe how the school archive webpage came to be created. Both Lawrence and Springfield Township libraries used Wordle, a drawing or charting tool that allows you to create customized word cloud art. This tool was used to both promote events and to create online genre posters. University High Library and Springfield Township included links to specific Flickr photo sharing pages, although only Springfield's linked to any student photos or student work.

Both New Trier and Springfield libraries used webpage starting tools. New Trier used Weebly to create a webpage for the school's Haiti Resources site and Springfield

used PageFlakes to organize pathfinders and RSS feeds. It should be noted however, that webpage starting tools can be difficult to identify. A webpage may have been designed with one of those tools but if the URL was not connected to Weebly or some other vendor, a user would have no way of knowing what tool was used.

Only Lawrence and Springfield libraries used Web 2.0 presentation tools but they used them in a variety of ways. Lawrence embedded slideshows of student work into several of the library webpages and included a slideshow of the library's annual report. Springfield embedded student photo slideshows into the library main page but also used slideshow tools to demonstrate or instruct students or teachers. One presentation tool used only by Springfield was "Glogster". This is a multi-media tool that enables the creation of interactive on-line posters. A search of WebTools4U2Use found that Glogster was considered a presentation tool. Springfield uses Glogster to create graphically-enhanced webpages with links to other resources. Only two schools used quiz and polling tools such as SurveyMonkey, however some schools used Google Docs to accomplish the same function.

Only Valenza's Springfield Library website appeared to use RSS or news aggregators. Because many Web 2.0 tools may be subscribed to through an RSS feed (blogs, Twitter posts), the only evidence of use that was included in this study was when feeds from other organizations were posted to the library website. Springfield library used RSS feeds extensively to post news updates to both the main library page and to pathfinder pages. For example, TimeSpace: World, an interactive news map from the Washington Post, and Feedzilla, a news aggregator, were both embedded into Springfield's library home page to provide a constant news flow. The pathfinders that

were organized with PageFlakes (website creation tool), included many RSS news feeds that were specific to each topic.

There was no evidence of calendar/task management or social bookmarking tools (Delicious, digg) in use by any of the Valenza sample schools.

In conclusion, the examination of the Valenza sample revealed frequent use of social networking and blogs but fewer than half the schools used any of the other tools. In most cases, the tools were used to promote the library collections and programming, and to connect the library's users to new resources and web tools. Although the Valenza sample showed evidence of using Web 2.0 tools to display student work, there was not a lot of clear evidence that these tools were being used for collaborative learning with students and teachers. More research might reveal that librarians are using these tools collaboratively with others.

Discussion and Study Implications

This study showed that 26% of the schools on the Newsweek "Top Schools" list did not have a direct link to their library website on the school's home page (see Appendix A). In the Valenza sample, one school out of nine did not have a direct link to the library website from the school's home page. (Northfield Mount Herman's library link was found under "Academics".) If librarians expect their programs to be part of a student's online presence and have some impact on their online behavior, then the library websites should be easy to locate. Additionally, a library program that expects to be the center of learning in the school should have a prominent place on the school's website.

Web 2.0 technologies have been the subject of countless articles in school library and education literature, however the data gathered from examining the Top Schools sample shows that few school libraries appear to be implementing these technologies. Further research is necessary to examine why. Studies have shown there may be a gap between what the literature is recommending and the training that media specialists receive (Baumbach, 2009, Hanson-Baldauf & Hughes Hassell, 2009, Hughes Hassell & Hanson-Baldauf, 2008). According to Baumbach (2009), “most library media specialists said they have had either no training or poor training on the use of Web tools or that training has not been relevant to library media center applications” (p. 15). Hughes Hassell & Hanson-Baldauf (2008) found that a need for increased training was particularly evident for “emergent Web 2.0 technologies” (p. 8).

Further research may also uncover administrative limitations on the use of these emergent technologies. Baumbach (2009) found that “the most common barrier identified was that many of these tools - including entire categories of tools - are blocked by district or school filters” (p. 15). In an attempt to block material that the government has deemed harmful to minors, most states use some level of Internet filtering on school computers. This has led to many Web 2.0 technologies being blocked from use, particularly social networking, photo and video sharing tools. Comparing the use of these tools in different areas of the country against district filtering policies may reveal regional differences in school library adoption of these emergent technologies.

Restrictive district policies and inadequate professional development were two of the barriers to technology integration revealed in Hughes Hassell and Hanson-Baldauf’s 2008 North Carolina study. These and other barriers—lack of time, resources and

inadequate infrastructure—may be significant reasons why these tools were not evident in the Top Schools sample. If media specialists are to continue their leadership role in the integration of Web 2.0 tools into teaching and learning, they must advocate for the removal of such obstacles.

Social networks are frequently blocked by district Internet filters, however the majority of the school libraries in the Valenza sample used social networks as a way to get information out to students. This is likely because social networks are so popular, particularly among young adults (Lenhart et al., 2008). Twitter was the social networking tool most widely used by libraries in the Valenza sample. Further study could show that because Twitter posts must be limited to 140 characters, those posts are more easily made by cell phone, thereby bypassing district filters.

Less than half of the Valenza sample schools used video sharing technology and even less used photo sharing tools. Although this may be explained by the implementation of district filters, it is also possible that these tools are discouraged because of the levels of administrative and parental permissions that are required to post photos of students.

Although many Web 2.0 productivity tools enable document sharing and collaboration, there is little evidence these tools were used in that manner. For example, Google Docs was used mostly for questionnaires and online forms. Similarly, calendars and task management were not used by any of the sample libraries. This may mean that those tools have still not gained wide spread use among educators or that educators are pressured to use district-purchased tools.

The schools in the Valenza sample showed a higher evidence of Web 2.0 tools use than the Top Schools sample, however most schools used these tools to promote new resources, library programs and services. It is important to promote services on a platform where you are most likely to reach students; however creating students who have 21st century information literacy skills should be the media specialist's primary responsibility. The tool most widely used in both the Top Schools and Valenza samples was blogs but an examination of the Valenza sample showed that in most cases these blogs were used similarly to social networking tools – to get information out to its readers about technology, resources and events and to advocate for librarianship. Although Springfield Township library showed links to other teacher's classroom blogs, and "LibGuides" were used by Northfield Mount Herman to organize subject resources, there was limited evidence that blogs were being used by librarians to engage student learning or to teach information literacy.

In the Valenza sample, the tool used most frequently for teaching and learning appeared to be wikis, because they showed some specific instructional and collaborative use by librarians, teachers and students. It is possible that more high school librarians are implementing the use of these tools in teaching and learning but that evidence does not appear on their library website. Regardless, more research is necessary to determine if the evidence seen on the library website is indicative of what is happening in the schools.

One of the most important advantages that Web 2.0 tools have over other software is their ability to enable students and teachers to contribute to learning through collaboration. Further research into whether these tools are being implemented collaboratively will require a method other than content analysis. Although the tools were

observed to be in use by libraries in the Valenza sample, for privacy purposes, many online names are anonymous and therefore it was not always clear whether the tool involved the participation of students or teachers. Clearly some other method of research is necessary to determine if these tools are being used to the benefit of collaborative learning.

Conclusion

The many positive implications of Web 2.0 on teaching and learning is widely discussed in school library literature (Johnson, 2006, Kirkland, 2007, Kroski, 2008, Richardson, 2006, Summers, 2009). The results of this study, however, indicate a low level of evidence that Web 2.0 tools are being used by libraries in schools that are considered by researchers to be the best in the country. The Valenza sample schools showed much more evidence of use, however, more research is necessary to determine if those tools are being used to work collaboratively with students and teachers and to enhance information literacy instruction.

Lack of Web 2.0 presence could suggest re-assessment of existing training and course materials to better prepare media specialists for exploiting the benefits of Web 2.0 tools. Examples provided by adopters such as those in the Valenza sample could provide a basis for understanding how their use of Web 2.0 tools evolved and provide a model for implementation in less developed school programs.

A cohesive, engaging digital presence is crucial to encouraging students to participate responsibly in our networked culture. Leaders in the school library field agree that media specialists need to take the lead in teaching students to knowledgeably analyze

and consume Internet products, to responsibly share information on the web, to use today's digital resources to support life-long learning, and to prepare themselves for employment in a world that demands technological skills.

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Appendix A – Top Schools Sample

Random # from 1-1428	High School Name	URL of HS Homepage	Library webpage evident=1	URL of Library Homepage
1093	Lake Highlands, Dallas, TX	http://www.risd.org/schools/lhhs/index.htm	1	http://libraries.risd.org/lhhslib/
978	William T. Dwyer, Pam Beach Gardens, FL	http://www.edline.net/pages/William_T_Dwyer_High_School	0	
1270	Douglas MacArthur, San Antonio, TX	http://www.neisd.net/mac/	1	http://www.neisd.net/mac/library/
858	Pierson, Sag Harbor, NY	http://www.sagharborschools.org/?q=node/8	1	http://library.sagharborschools.org/common/welcome.jsp?site=100
884	Armwood, Tampa, FL	http://armwood.mysdhc.org/	0	
216	Broadneck, Annapolis, MD	http://www.broadneck.org/	1	http://broadneck.org/media/
688	Massapequa, Massapequa, NY	http://www.msdk12.ny.us/high_main.cfm	1	http://www.msdk12.ny.us/high_main.cfm?subpage=42
1012	Corcoran, Syracuse, NY	http://www.scsd.us/~corcoran/index.html	1	http://www.youseemore.com/scsd/school.asp?schooltype=hs&branch=07
562	Oceanside, Oceanside, CA	http://www.ohs.oside.k12.ca.us/	0	
18	North Hills Prep, Irving, TX	http://www.northhillsprep.org/home	0	
1350	Westminster, Westminster, CA	http://www.whslions.com/Westminster_High_School/Welcome.html	1	http://www.whslibrary.com/
286	Berkeley, Berkeley, CA	http://bhs.berkeley.net/	1	http://www.bhs.berkeley.net/index.php?page=library
219	Robinson Secondary, Fairfax, VA	http://www.fcps.edu/RobinsonSS/	1	http://www.fcps.edu/RobinsonSS/media-center/
935	Riverbend, Fredericksburg, VA	http://www.spotsyschools.us/rhs/	1	http://www.spotsyschools.us/rhs/Students/LibraryMediaCenter/tabid/1666/Default.aspx
39	Design & Architecture Sr High, Miami, FL	http://www.dashschool.org/#/client/template.xml?aaa=home&bbb=	0	
274	Half Hollow Hills East, Dix Hills, NY	http://www.halfhollowhills.k12.ny.us/page.cfm?p=975570	1	http://www.halfhollowhills.k12.ny.us/page.cfm?p=975604
437	Cheyenne Mountain, Colorado Springs, CO	http://www.cmsd12.org/chey_mtn_hs/	0	
624	Southwest Guilford, High Point, NC	http://schoolcenter.gcsnc.com/education/school/school.php?sectiondetailid=37611&PHPSESSID=9059095042f23d39f94f9993bb34dc51	0	
1358	Elk Grove, Elk Grove, CA	http://eghs-egusd-ca.schoolloop.com/	1	http://www.eghslibrary.net/
191	Debakey HS for Health Prof, Houston, TX	http://hs.houstonisd.org/debakeyhs/	0	
583	Las Lomas, Walnut Creek, CA	http://laslomas.acalanes.k12.ca.us/webapps/portal/frameset.jsp	1	http://laslomas.acalanes.k12.ca.us/webapps/portal/frameset.jsp?tab_id=_54_1
1387	Landstown HS & Tech Academy, Virginia Beach, VA	http://www.landstownhs.vbschools.com/	0	
126	Chantilly, Chantilly, VA	http://www.fcps.edu/ChantillyHS/	1	http://www.fcps.edu/ChantillyHS/media_center/index.htm
874	Greenville, Greenville, SC	http://www.greenville.k12.sc.us/gvilleh/	1	http://www.greenville.k12.sc.us/gvilleh/departments/me.htm
128	Weaver Academy, Greensboro, NC	http://weaveracademy.gcsnc.com/	0	
1106	Northwest, Justin, TX	http://www.nisdtx.org/nhs/site/default.asp	1	http://www.nisdtx.org/120820731141528687/site/default.asp
1216	East Brunswick, East Brunswick, NJ	http://www.hs.ebruns.k12.nj.us/	1	http://sites.google.com/site/ebhsmmediacent er/home
183	Broad Run, Ashburn, VA	http://cmsweb1.loudoun.k12.va.us/brhs/site/default.asp	1	http://cmsweb1.loudoun.k12.va.us/50960425152421/site/default.asp?50960425152421Nav=J&NodeID=2406
853	Lahser, Bloomfield Hills, MI	http://lahser.bloomfield.org/	1	http://lahser.bloomfield.org/LMC/index.htm
1008	Viewmont, Bountiful, UT	http://www.davis.k12.ut.us/vhs/VHS%20WEB/VHSHOMEINDEX.html	1	http://www.davis.k12.ut.us/schools/vhs/library/index.html
32	Richard Montgomery, Rockville, MD	http://www.montgomeryschoolsmd.org/schools/rmhs/	1	http://www.montgomeryschoolsmd.org/schools/rmhs/templates/default.aspx?id=7902
643	Brackenridge, San Antonio, TX	http://www.saisd.net/schools/brack001/	1	http://www.saisd.net/schools/brack001/index.php?option=com_content&view=article&id=67&Itemid=74
670	Gaither, Tampa, FL	http://gaither.mysdhc.org/	1	http://gaither.mysdhc.org/teacher/1551chevalier/
438	Middletown, Middletown, MD	http://mhs.sites.fcps.org/	1	http://mhs.sites.fcps.org/mediacenter
974	Carson, Carson, CA	http://www.carsonhs.org/	0	
76	Walter Johnson, Bethesda, MD	http://www.montgomeryschoolsmd.org/schools/wjhs/	1	http://www.montgomeryschoolsmd.org/schools/wjhs/mediactr/
381	Rampart, Colorado Springs, CO	http://www.asd20.org/education/school/school.php?sectionid=459	1	http://www.asd20.org/education/staff/staff.php?sectionid=2937&PHPSESSID=8f8f2dbc2960d0066c9ceda74696b386

Appendix A – Top Schools Sample, cont.

Random # from 1-1426	High School Name	URL of HS Homepage	Library webpage evident=1	URL of Library Homepage
593	D'Evelyn, Denver, CO	http://sc.jeffco.k12.co.us/education/components/scrapbook/default.php?sectionid=188	1	http://sc.jeffco.k12.co.us/education/staff/staff.php?sectionid=14230&PHPSESSID=83dd79f17dfd3b1e79c970ac5f8ca1dd
110	Bronxville, Bronxville, NY	http://www.edline.net/pages/Bronxville_High_School	1	http://www.bronxville.k12.ny.us/Library/library.htm
224	HS for Arts & Business, Queens, NY	http://schools.nyc.gov/SchoolPortals/24/Q550/default.htm	0	
632	Osborn Park, Manassas, VA	http://www.osbornpark.groupfusion.net/	1	http://librarian.osbornpark.groupfusion.net/modules/groups/integrated_home.phtml?&gid=34465&sessionid=b04444f98c82c84f791b97386b00ea39
484	New World School of the Arts, Miami, FL	http://nwsa.mdc.edu/high-school-home/high-school-home/welcome.html	0	
739	Pelham, Pelham, NY	http://pmhs.pelhamschools.org/home	0	
475	John Hersey, Arlington Heights, IL	http://jhhs.d214.org/	1	http://jhhs.d214.org/library/default.aspx
395	Sleepy Hollow, Sleepy Hollow, NY	http://www.tufsd.org/shhs/index.html	1	http://www.tufsd.org/mediacenter/shmshs/databases.htm
849	Silver Creek, San Jose, CA	http://silvercreekhs.ca.campusgrid.net/home/front.html	0	
837	Frank W. Cox, Virginia Beach, VA	http://www.coxhs.vbschools.com/	1	http://www.coxhs.vbschools.com/librarymedia.htm
1366	Willowbrook, Villa Park, IL	http://www.hsdist88.dupage.k12.il.us/wbhs/	1	http://www.hsdist88.dupage.k12.il.us/wbhs/library/index.htm
136	Ridge, Basking Ridge, NJ	http://www1.bernardsboe.com/RidgeHighSchool/	0	
403	Boise, Boise, ID	http://www.boiseschools.org/schools/boise/	1	http://www.boiseschools.org/schools/boise/library/index.html
1037	Atholton, Columbia, MD	http://www2.hcpss.org/ahs/	1	http://teacherweb.com/MD/AtholtonHighSchool/MediaCenter/
444	Olentangy, Lewis Center, OH	http://www.olentangy.k12.oh.us/buildings/ohs/	1	http://ohs.olentangy.k12.oh.us/teachers/vicky_schmarr/Home%20Page
398	Riverview, Sarasota, FL	http://www.sarasotacountyschools.net/schools/riverview/	1	http://www.sarasotacountyschools.net/schools/riverview/interior.aspx?id=20398&ekmnsel=77901891_65_0_20398_10
1207	San Bernardino, San Bernadino, CA	http://www.sbcusd.com/index.aspx?nid=384	1	http://www.sbcusd.com/index.aspx?nid=2248
539	Roswell, Roswell, GA	http://www.roswellhigh.org/	1	http://fcsdestiny.fultonschools.org/common/welcome.jsp?site=391
466	Lexington, Lexington, MA	http://lhs.lexingtonma.org/	1	http://lhs.lexingtonma.org/Library/
303	Lawrence D. Bell, Hurst, TX	http://schoolctr.hebisd.edu/education/school/school.php?sectionid=2	1	http://schoolctr.hebisd.edu/education/staff/staff.php?sectionid=358
259	Miami Killian, Miami, FL	http://killian.dadeschools.net/	0	
778	Irvine, Irvine, CA	http://iusd.org/IHS/	1	http://www.iusd.org/ihs/library/index.html
33	Dreyfoos School of the Arts, W. Palm Beach, FL	http://www.awdsoa.org/	0	
402	Eastchester, Eastchester, NY	http://www.eastchesterschools.org/m/	1	http://www.eastchester.k12.ny.us/schools/hst/teachers/library/library.htm
1230	Washington, Sioux Falls, SD	http://www.sf.k12.sd.us/SFSchoolDistrict/community.aspx?sfsd=WebPointID%3d230%26NewsStoryID%3d0%26_Timestamp%3d12%2f31%2f9999+11%3a59%3a59+PM	1	http://libraries.sf.k12.sd.us/high/default.htm
1114	Dakota, Macomb, MI	http://www.cvs.k12.mi.us/dakota/	1	http://www.cvs.k12.mi.us/dakota/mediacenter.html
253	Victor Central, Victor, NY	http://www.victorschools.org/senior_high.h.cfm?subpage=7	1	http://www.victorschools.org/senior_high.cfm?subpage=136
1034	Theodore Roosevelt, San Antonio, TX	http://www.neisd.net/roos/	1	http://www.neisd.net/roos/content/pages/library/index.html
852	Skaneateles, Skaneateles, NY	http://www.skanschools.org/HighSchool.cfm?subpage=41340	1	http://www.skanschools.org/webpages/rnews/index.cfm
693	Newman Smith, Carrollton, TX	http://cfbstaff.cfbisd.edu/smith/	1	http://cfbstaff.cfbisd.edu/librariansmith/
658	Wylie E. Groves, Beverly Hills, MI	http://www.birmingham.k12.mi.us/Schools/High+Schools/Groves/	1	http://www.birmingham.k12.mi.us/Schools/High+Schools/Groves/Media+Center/Groves+Media+Center.htm
1293	Mahopac, Mahopac, NY	http://mhs.mahopac.k12.ny.us/home	1	http://mhs.mahopac.k12.ny.us/site_res_view_template.aspx?id=1ca0cf14-70aa-4049-b615-6e309827ce65
1371	Cypress, Cypress, CA	http://web.mac.com/cypress.high.library/Cypress_HS_Library/Home.html	1	http://web.mac.com/cypress.high.library/Cypress_HS_Library/Home.html
1237	Grayson, Loganville, GA	http://www.graysonhighschool.org/index.php	1	http://www.ghsmediacenter.com/index.html

Appendix A – Top Schools Sample, cont.

Random # from 1-1426	High School Name	URL of HS Homepage	Library webpage evident=1	URL of Library Homepage
47	South Side, Rockville Centre, NY	http://rockville.ny.schoolwebpages.com/education/school/school.php?sectionid=8	1	http://rockville.ny.schoolwebpages.com/education/dept/dept.php?sectionid=251
120	DuPont Manual, Louisville, KY	http://www.dupontmanual.com/	0	
310	New Paltz Central, New Paltz, NY	http://www.newpaltz.k12.ny.us/highschool/site/default.asp	1	http://nphslib.weebly.com/
453	Pinnacle, Phoenix, AR	http://cmweb.pvschools.net/phsweb/	1	http://cmweb.pvschools.net/phsweb/ITC.html
228	University City, San Diego, CA	http://www.universitycityhigh.org/	1	http://sites.google.com/site/uchsmmediacent/
528	Arroyo Grande, Arroyo Grande, CA	http://www.luciamar.k12.ca.us/education/school/school.php?sectionid=6	0	
390	Falls Church, Fairfax, VA	http://www.fcps.edu/FallsChurchHS/	1	http://www.fcps.edu/FallsChurchHS/Library/index.html
842	Satellite, Satellite Beach, FL	http://scorpnnet.brevard.k12.fl.us/	1	http://scorpnnet.brevard.k12.fl.us/media/index.htm
1056	Reseda, Reseda, CA	http://www.resedahighschool.net/	1	http://www.resedahighschool.net/
1111	Plainedge, North Massapequa, NY	http://jupiter.plainedgeschools.org/highschool/	0	
1251	Kamiak, Mukilteo, WA	http://schools.mukilteo.wednet.edu/ka/	1	http://schools.mukilteo.wednet.edu/ka/library/
695	Shoreham-Wading River, Shoreham, NY	http://www.swrschools.org/schools/swrshs.asp	1	http://www3.eboard.com/eboard/servlet/BoardServlet?ACTION=BOARD_SHOW&SITE_NAME=swrschools&BOARD_NAME=hslib&SESSION_ID=s2h88f2lqppo14927
1306	Central, Springfield, MO	http://sps.k12.mo.us/chs/	1	http://sps.k12.mo.us/chs/library.html
461	Woodlands-College Park, The Woodlands, TX	http://twcp.conroeisd.net/	0	
92	Edgemont, Scarsdale, NY	http://ehs.edgemont.org/home	0	http://ehs.edgemont.org/site_res_view_folder.aspx?id=56fb7ace-0bab-11d7-a86c-0002b3b77bcf (required login)
700	Andrews, High Point, NC	http://andrews.gcsnc.com/	0	
1317	American Fork, American Fork, UT	http://www.alpine.k12.ut.us/phpApps/genericPage.php?pdid=1822	0	
1319	Wayne Hills, Wayne, NJ	http://www.wayneschools.com/schools/high/waynehills/	1	http://www.wayneschools.com/schools/high/waynehills/media_center/
1060	Chatsworth, Chatsworth, CA	http://www.chatsworthhs.org/index.jsp?rn=15337	1	http://www.chatsworthhs.org/library/?m=8498254
1334	Arthur L. Johnson, Clark, NJ	http://alj.clarkschools.org/home	1	http://alj.clarkschools.org/site_res_view_folder.aspx?id=22c56134-d4a9-43e7-a79d-bbc62b8163cf
1154	Apopka, Apopka, FL	https://www.ocps.net/lc/north/hap/Pages/default.aspx	1	https://www.ocps.net/lc/north/hap/mediacenter/Pages/Media%20Center.aspx
882	University, Los Angeles, CA	http://www.universitywildcats.org/	1	http://www.uhlibrary.net/
672	Eastern Guilford, Gibsonville, NC	http://schoolcenter.gcsnc.com/education/school/school.php?sectionid=13	1	http://schoolcenter.gcsnc.com/education/components/scrapbook/default.php?sectionid=235120&
1126	Inglemoor, Kenmore, WA	http://www.nsd.org/education/components/scrapbook/default.php?sectionid=19	1	http://www.nsd.org/education/staff/staff.php?sectionid=1363
1162	Sachem East, Farmingville, NY	http://www.sachem.k12.ny.us/schools/east/	1	http://www3.eboard.com/eboard/servlet/BoardServlet?ACTION=BOARD_SHOW&SITE_NAME=Destination&BOARD_NAME=saschemeastlibrary&SESSION_ID=er488sf4io8do7z5352
146	Boca Raton Community, Boca Raton, FL	http://www.westbocahighschool.net/	0	
111	Odyssey Academy, Rochester, NY	http://web001.greece.k12.ny.us/odyssey.cfm	1	http://web001.greece.k12.ny.us/webpages/odysseylibrary/
35	Benjamin Franklin, New Orleans, LA	http://www.benfranklinhighschool.org/	1	http://www.benfranklinhighschool.org/academics/library/library.htm
312	Conestoga, Berwyn, PA	http://www.tesd.k12.pa.us/Stoga/	1	http://www.stoga.net/
807	Riverside, Durham, NC	http://www.riverside.dpsnc.net/	1	http://www.riverside.dpsnc.net/teacherpages/kmayo/
405	Mountain View, Mountain View, CA	http://sharepoint.mvla.net/mvhs/Pages/default.aspx	1	http://sharepoint.mvla.net/mvhs/Library/Pages/default.aspx
496	Hopkinton, Hopkinton, MA	http://www.hopkinton.k12.ma.us/high_1/index.php	1	http://www.hopkinton.k12.ma.us/high/departments/library/HSLMC/index.htm
478	Menchville, Newport News, VA	http://mvla.nn.k12.va.us/	1	http://web.mac.com/monarchville/Monarchville/Menchville_Media_Center_1_3_2.html
585	Highland, Salt Lake City UT	http://highland.slc.k12.ut.us/	1	http://highland.slc.k12.ut.us/librarymedia/index.htm

Appendix A – Top Schools Sample, cont.

Random # from 1-1426	High School Name	URL of HS Homepage	Library webpage evident=1	URL of Library Homepage
1197	Cuyahoga Heights, Cuyahoga Heights, OH	http://www.cuyhts.k12.oh.us/highschool/	1	http://www.cuyhts.k12.oh.us/highschool/high_library.aspx
1331	Tucker, Tucker, GA	http://www.dekalb.k12.ga.us/Tucker/	1	http://www.dekalb.k12.ga.us/tucker/library/index.html
246	Towson, Towson, MD	http://schools.bcps.org/schools/chs/towson/	1	http://schools.bcps.org/schools/chs/towson/library.html
1298	Wheaton North, Wheaton, IL	http://www.wnhs.org/	1	http://www.wnhs.org/academics/library/index.htm
876	White Station, Memphis, TN	http://www.mcsk12.net/schools/whitestationsite/index.shtml	1	http://www.mcsk12.net/schools/whitestationsite/site/library.shtml
513	Sherwood, Sandy Spring, MD	http://www.montgomeryschoolsmd.org/schools/sherwoodhs/	1	http://www.montgomeryschoolsmd.org/schools/sherwoodhs/mediacenter/
421	St. Augustine, St. Augustine, FL	http://www.sahs.stjohns.k12.fl.us/	1	http://www.sahs.stjohns.k12.fl.us/media/
1281	Glynn Academy, Brunswick, GA	http://glynn.schooldesk.net/Default.aspx?alias=glynn.schooldesk.net/academy	0	
830	Brea Olinda, Brea, CA	http://bohs-bousd-ca.schoolloop.com/	1	http://bohs-bousd-ca.schoolloop.com/welcometothewildcatlibrary
225	Corona del Mar, Newport Beach, CA	http://cdm.nmusd.us/	1	http://cdm.nmusd.us/generalinfo
197	Blind Brook, Rye Brook, NY	http://www.blindbrook.org/our_schools/high_school/index.shtml	1	http://www.blindbrook.org/our_schools/high_school/library_research/index.shtml
150	Pleasantville, Pleasantville, NY	http://hs.pleasantvilleschools.com/	1	http://hs.pleasantvilleschools.com/apps/pages/index.jsp?uREC_ID=54170&type=d&m=2389637
490	Lyman, Longwood, FL	http://lyman.scps.k12.fl.us/lyman%20web/best%20dark.html	0	
1019	Ocean Township, Oakhurst, NJ	http://ocean.k12.nj.us/ocean/Schools/Ocean%20Township%20High%20School/	0	
1412	Bella Vista, Fair Oaks, CA	http://www.sanjuan.edu/BellaVista.cfm	1	http://www.sanjuan.edu/BellaVista.cfm?subpage=51103
713	Cape Elizabeth, Cape Elizabeth, MA	http://www.cape.k12.me.us/sHigh.html	1	http://www.cape.k12.me.us/cehslibrary/Library%20Web/Index2.htm
801	Fremont, Los Angeles, CA	http://www.fremonths.org/	0	
1079	Farragut, Knoxville, TN	http://farraguths.knoxschools.org/	1	http://mediacenter.farraguths.knoxschools.org/modules/groups/integrated_home.phtml?&gid=507907&sessionid=5f386a85fb1a1766c3b64fe9567f81dd
957	Grand Island, Grand Island, NY	http://www.k12.ginet.org/high_school.cfm	1	http://www.k12.ginet.org/resources.cfm?subpage=105
1145	Pine Creek, Colorado Spring, CO	http://www.asd20.org/education/school/school.php?sectionid=2	1	http://www.asd20.org/education/components/sectionlist/default.php?sectiondetailid=276
1025	Flemming Island, Orange Park, FL	http://www.clay.k12.fl.us/fih/	0	
83	Gunn, Palo Alto, CA	http://gunn.pausd.org/home/web/	1	http://gunn.pausd.org/~library/index.html
153	Banneker, Washington, DC	http://www.benjaminbanneker.org/	0	
504	Huntington, Huntington, NY	http://www.hufsd.edu/schools/highschool/hs_index.html	0	
427	Vanguard, Ocala, FL	http://www.marion.k12.fl.us/SCHOOLS/VHS/	1	http://www.marion.k12.fl.us/SCHOOLS/VHS/media.cfm
447	Eagle Rock, Los Angeles, CA	http://www.erhs.la/	0	
673	Taravella, Coral Springs, FL	http://jptaravella.com/home/index.html	1	http://jptaravella.com/media/index.html
168	Sammamish, Bellevue, WA	http://schools.bsd405.org/bhs/homepage/	1	http://schools.bsd405.org/bhs/homepage/index.asp?page=library/index
335	Townsend Harris, Queens, NY	http://staff.thhs.qc.edu/thhs/index.php	0	
1301	North Reading High, North Reading, MA	http://hs.north-reading.k12.ma.us/Pages/index	0	
258	Fairfax, Fairfax, VA	http://www.fcps.edu/FairfaxHS/	1	http://www.fcps.edu/FairfaxHS/cybrary/index.htm
	TOTAL		100	

Appendix B

Web 2.0 Categories from WebTools4U2Use Wiki (Baumbach & Lee, 2008)

[\[http://webtools4u2use.wikispaces.com/\]](http://webtools4u2use.wikispaces.com/)

- Audio & Podcasting
- Blogs (Weblogs)
- Calendars, Task Management & ToDo List Tools
- Drawing, Charting & Mapping Tools
- Photo and Photo Sharing Tools
- Portal & WebPage Starting Tools
- Presentation Tools
- Quiz & Polling Tools
- RSS, News Feeds & Aggregators
- Social Bookmark Tools
- Social Networks
- Video Tools and Video Sharing
- Wikis
- Word Processing & Productivity Tools

Appendix C

Code Book – “Top Schools” Sample - Instances of Links to Web 2.0 Tools

Unit of Analysis: High school library home page. The “home page” will be defined as the first page of the school library website, generally the welcoming page. A “website” is defined as a “collection of Webpages - an HTML site, blog, or other Web-based publication - linked together to represent a school library program” (Valenza, 2007a, p. 54).

Instances to be counted: Any identified link to a Web 2.0 tool as defined below. Multiple instances of a tool will not be counted. Categories and examples from WebTools4U2Use Wiki at <http://webtools4u2use.wikispaces.com/>.

Tool Definitions/Examples:

- Audio & Podcasting – Podcasts are audio recordings that can be posted to the web and downloaded to individual recording devices or personal computers. Examples: iTunes, EdTechTalk, links to any individual podcast.
- Blogs (Weblogs) – an online log or journal where entries are posted and displayed in reverse chronological order. Examples: Blogger, EduBlogs.
- Calendars, Task Management & ToDo List Tools – Online task management tools can be used collaboratively or individually to manage the library schedule, events or shared tasks. Examples: Yahoo! Calendar, Google Calendar, EVite, Coordinatr, ToodleDo.
- Drawing, Charting & Mapping Tools – tools to create online images such as drawings, cartoons, charts, graphs, diagrams, and maps. Examples: MindMeister, Create A Graph, ToonDo, Wordle.
- Photo and Photo Sharing Tools – enable users to view, upload, store and share digital (still) images online. Examples: Flickr, PhotoBucket, Snapfish.
- Portal & WebPage Starting Tools – allow a person to customize their Internet home page by selecting the content to be displayed. Examples: iGoogle, MyYahoo, Netvibes.
- Presentation Tools – web-based collaborative multimedia presentation tools such as SlideShare, VoiceThread, Glogster.
- Quiz & Polling Tools – used to create online polls and quizzes; and to gather, analyze and share the results. Examples: SurveyMonkey, Easy-Poll, MyStudiyo.

- RSS, News Feeds & Aggregators – technologies that allow users to subscribe to “feeds” of published web content. The content can be from blogs, online news organizations, podcasts and others. This allows the user to have content come to them, rather than the user having to retrieve the content. RSS is an acronym for “Really Simple Syndication”. Examples: Google Reader, Bloglines, SharpReader.
- Social Bookmark Tools – enable the user to store their Internet bookmarks to the web where they can be organized, tagged with key words, annotated, shared and accessed from any computer. Examples: Delicious, digg, StumbleUpon.
- Social Networks – online communities or environments where users can seek out others and build connections with them. Examples: MySpace, Facebook, Ning, LinkedIn, Twitter.
- Video Tools and Video Sharing - enable users to view, upload, store and share digital video images online. Examples: YouTube, TeacherTube, Hulu. Excluded: subscription video tools such as United Streaming.
- Wikis – a collaborative space on the web where anyone can add and edit content. A wiki may be public or limited to a group of users. Examples: Wikipedia, WikiSpaces, ZohoWiki.
- Word Processing & Productivity Tools – free online office applications that enable users to collaboratively create documents, spreadsheets, databases and presentations. These files are stored online and can be edited by multiple people and accessed from any computer. Examples: Google Docs, ZohoWriter, ZohoCreator, Open Office.

Note: this list was compiled from:

Baumbach D. & Lee, J. (2008). WebTools4U2Use. Retrieved from <http://webtools4u2use.wikispaces.com/>.

Kroski, E. (2008). *Web 2.0 for librarians and information professionals*. New York: Neal-Schuman Publishers.

Solomon, G. & Schrum, L. (2007). *Web 2.0: New tools, new schools*. Eugene, OR: ISTE.

Appendix D

Code Book – Descriptive Study of Valenza Sample - How are Web 2.0 tools being used to enhance programs and services?

Unit of Analysis: High school library website home page plus two subsequent levels below. A “website” is defined as a “collection of Webpages - an HTML site, blog, or other Web-based publication - linked together to represent a school library program” (Valenza, 2007a, p. 54). The “home page” will be defined as the first page of the school library website, generally the welcoming page. “Two subsequent levels” is defined as two clicks from the home page.

Instances to be described: Any identified link to a Web 2.0 tool as defined below.

Tool Definitions/Examples:

- Audio & Podcasting – Podcasts are audio recordings that can be posted to the web and downloaded to individual recording devices or personal computers. Examples: iTunes, EdTechTalk, links to any individual podcast.
- Blogs (Weblogs) – an online log or journal where entries are posted and displayed in reverse chronological order. Examples: Blogger, EduBlogs.
- Calendars, Task Management & ToDo List Tools – Online task management tools can be used collaboratively or individually to manage the library schedule, events or shared tasks. Examples: Yahoo! Calendar, Google Calendar, EVite, Coordinatr, ToodleDo.
- Drawing, Charting & Mapping Tools – tools to create online images such as drawings, cartoons, charts, graphs, diagrams, and maps. Examples: MindMeister, Create A Graph, ToonDo, Wordle.
- Photo and Photo Sharing Tools – enable users to view, upload, store and share digital (still) images online. Examples: Flickr, PhotoBucket, Snapfish.
- Portal & WebPage Starting Tools – allow a person to customize their Internet home page by selecting the content to be displayed. Examples: iGoogle, MyYahoo, Netvibes.
- Presentation Tools – web-based collaborative multimedia presentation tools such as SlideShare, VoiceThread, Glogster.
- Quiz & Polling Tools – used to create online polls and quizzes; and to gather, analyze and share the results. Examples: SurveyMonkey, Easy-Poll, MyStudiyo.

- RSS, News Feeds & Aggregators – technologies that allow users to subscribe to “feeds” of published web content. The content can be from blogs, online news organizations, podcasts and others. This allows the user to have content come to them, rather than the user having to retrieve the content. RSS is an acronym for “Really Simple Syndication”. Examples: Google Reader, Bloglines, SharpReader.
- Social Bookmark Tools – enable the user to store their Internet bookmarks to the web where they can be organized, tagged with key words, annotated, shared and accessed from any computer. Examples: Delicious, digg, StumbleUpon.
- Social Networks – online communities or environments where users can seek out others and build connections with them. Examples: MySpace, Facebook, Ning, LinkedIn, Twitter.
- Video Tools and Video Sharing - enable users to view, upload, store and share digital video images online. Examples: YouTube, TeacherTube, Hulu. Excluded: subscription video tools such as United Streaming.
- Wikis – a collaborative space on the web where anyone can add and edit content. A wiki may be public or limited to a group of users. Examples: Wikipedia, WikiSpaces, ZohoWiki.
- Word Processing & Productivity Tools – free online office applications that enable users to collaboratively create documents, spreadsheets, databases and presentations. These files are stored online and can be edited by multiple people and accessed from any computer. Examples: Google Docs, ZohoWriter, ZohoCreator, Open Office.

Note: this list was compiled from:

Baumbach D. & Lee, J. (2008). WebTools4U2Use. Retrieved from <http://webtools4u2use.wikispaces.com/>.

Kroski, E. (2008). *Web 2.0 for librarians and information professionals*. New York: Neal-Schuman Publishers.

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Appendix E

Coding Form – Instances of Links to Web 2.0 Tools

[illegible]

Appendix F - Top Schools Sample Data

High School Name	Evidence noted 0=no; 1=yes	Audio & Podcasting	Blogs	Calendars & Task Mgmt	Drawing, Charting & Mapping	Photo/ Photo Sharing	Portal/ Webpage Starting Tools	Presentation	Quiz & Polling	RSS, News Feeds & Aggregators	Social Bookmarking
Lake Highlands, Dallas, TX	0	0	0	0	0	0	0	0	0	0	0
Douglas Macarthur, San Antonio, TX	1	0	1	0	0	0	0	0	0	0	0
Pierson, Sag Harbor, NY	0	0	0	0	0	0	0	0	0	0	0
Broadneck, Annapolis, MD	0	0	0	0	0	0	0	0	0	0	0
Massapequa, Massapequa, NY	0	0	0	0	0	0	0	0	0	0	0
Corcoran, Syracuse, NY	1	0	1	0	0	0	0	0	0	0	0
Westminster, Westminster, CA	0	0	0	0	0	0	0	0	0	0	0
Berkeley, Berkeley, CA	1	0	1	0	0	0	0	0	0	0	0
Robinson Secondary, Fairfax, VA	0	0	0	0	0	0	0	0	0	0	0
Riverbend, Fredericksburg, VA	1	0	1	0	0	0	0	1	0	0	0
Half Hollow Hills East, Dix Hills, NY	0	0	0	0	0	0	0	0	0	0	0
Elk Grove, Elk Grove, CA	1	0	1	0	0	0	0	0	0	0	0
Las Lomas, Walnut Creek, CA	0	0	0	0	0	0	0	0	0	0	0
Chantilly, Chantilly, VA	0	0	0	0	0	0	0	0	0	0	0
Greenville, Greenville, SC	0	0	0	0	0	0	0	0	0	0	0
Northwest, Justin, TX	1	1	1	0	0	0	0	0	0	0	0
East Brunswick, East Brunswick, NJ	0	0	0	0	0	0	0	0	0	0	0
Broad Run, Ashburn, VA	0	0	0	0	0	0	0	0	0	0	0
Lahser, Bloomfield Hills, MI	0	0	0	0	0	0	0	0	0	0	0
Viewmont, Bountiful, UT	0	0	0	0	0	0	0	0	0	0	0
Richard Montgomery, Rockville, MD	0	0	0	0	0	0	0	0	0	0	0
Brackenridge, San Antonio, TX	0	0	0	0	0	0	0	0	0	0	0
Gaither, Tampa, FL	0	0	0	0	0	0	0	0	0	0	0
Middletown, Middletown, MD	1	0	0	0	0	0	0	0	0	0	0
Walter Johnson, Bethesda, MD	0	0	0	0	0	0	0	0	0	0	0
Rampart, Colorado Springs, CO	1	0	0	0	0	0	0	0	0	0	0
D'Evelyn, Denver, CO	0	0	0	0	0	0	0	0	0	0	0
Bronxville, Bronxville, NY	0	0	0	0	0	0	0	0	0	0	0
Osborn Park, Manassas, VA	0	0	0	0	0	0	0	0	0	0	0
John Hersey, Arlington Heights, IL	0	0	0	0	0	0	0	0	0	0	0
Sleepy Hollow, Sleepy Hollow, NY	0	0	0	0	0	0	0	0	0	0	0

Appendix F - Top Schools Sample Data, cont.

High School Name	Evidence noted 0-no; 1-yes	Audio & Podcasting	Blogs	Calendars & Task Mgmt	Drawing, Charting & Mapping	Photo/ Photo Sharing	Portal/ Webpage Starting Tools	Presentation	Quiz & Polling	RSS, News Feeds & Aggregators	Social Bookmarking
Frank W. Cox, Virginia Beach, VA	0	0	0	0	0	0	0	0	0	0	0
Willowbrook, Villa Park, IL	1	0	0	0	0	1	0	0	0	0	0
Boise, Boise, ID	0	0	0	0	0	0	0	0	0	0	0
Atholton, Columbia, MD	0	0	0	0	0	0	0	0	0	0	0
Olentangy, Lewis Center, OH	0	0	0	0	0	0	0	0	0	0	0
Riverview, Sarasota, FL	0	0	0	0	0	0	0	0	0	0	0
San Bernardino, San Bernardino, CA	0	0	0	0	0	0	0	0	0	0	0
Roswell, Roswell, GA	0	0	0	0	0	0	0	0	0	0	0
Lexington, Lexington, MA	0	0	0	0	0	0	0	0	0	0	0
Lawrence D. Bell, Hurst, TX	1	0	1	0	0	0	0	0	0	0	0
Irvine, Irvine, CA	0	0	0	0	0	0	0	0	0	0	0
Eastchester, Eastchester, NY	1	0	1	0	0	0	0	0	0	0	0
Washington, Sioux Falls, SD	0	0	0	0	0	0	0	0	0	0	0
Dakota, Macomb, MI	0	0	0	0	0	0	0	0	0	0	0
Victor Central, Victor, NY	1	0	0	0	0	0	0	0	0	1	0
Theodore Roosevelt, San Antonio, TX	0	0	0	0	0	0	0	0	0	0	0
Skaneateles, Skaneateles, NY	0	0	0	0	0	0	0	0	0	0	0
Newman Smith, Carrollton, TX	0	0	0	0	0	0	0	0	0	0	0
Wylie E. Groves, Beverly Hills, MI	0	0	0	0	0	0	0	0	0	0	0
Mahopac, Mahopac, NY	0	0	0	0	0	0	0	0	0	0	0
Cypress, Cypress, CA	0	0	0	0	0	0	0	0	0	0	0
Grayson, Loganville, GA	1	0	1	0	0	0	0	0	0	0	0
South Side, Rockville Centre, NY	0	0	0	0	0	0	0	0	0	0	0
New Paltz Central, New Paltz, NY	1	0	1	0	0	0	1	0	1	0	0
Pinnacle, Phoenix, AR	0	0	0	0	0	0	0	0	0	0	0
University City, San Diego, CA	1	0	0	0	0	0	1	0	0	0	0
Falls Church, Fairfax, VA	0	0	0	0	0	0	0	0	0	0	0
Satellite, Satellite Beach, FL	0	0	0	0	0	0	0	0	0	0	0
Reseda, Reseda, CA	0	0	0	0	0	0	0	0	0	0	0
Kamiak, Mukilteo, WA	0	0	0	0	0	0	0	0	0	0	0
Shoreham-Wading River, Shoreham, NY	0	0	0	0	0	0	0	0	0	0	0

Appendix F - Top Schools Sample Data, cont.

High School Name	Evidence noted 0-no; 1=yes	Audio & Podcasting	Blogs	Calendars & Task Mgmt	Drawing, Charting & Mapping	Photo/ Photo Sharing	Portal/ Webpage Starting Tools	Presentation	Quiz & Polling	RSS, News Feeds & Aggregators	Social Bookmarking
Central, Springfield, MO	0	0	0	0	0	0	0	0	0	0	0
Wayne Hills, Wayne, NJ	0	0	0	0	0	0	0	0	0	0	0
Chatsworth, Chatsworth, CA	0	0	0	0	0	0	0	0	0	0	0
Arthur L. Johnson, Clark, NJ	0	0	0	0	0	0	0	0	0	0	0
Apopka, Apopka, FL	0	0	0	0	0	0	0	0	0	0	0
University, Los Angeles, CA	0	0	0	0	0	0	0	0	0	0	0
Eastern Guilford, Gibsonville, NC	0	0	0	0	0	0	0	0	0	0	0
Inglemoor, Kenmore, WA	1	0	0	0	0	0	0	0	0	0	0
Sachem East, Farmingville, NY	0	0	0	0	0	0	0	0	0	0	0
Odyssey Academy, Rochester, NY	0	0	0	0	0	0	0	0	0	0	0
Benjamin Franklin, New Orleans, LA	0	0	0	0	0	0	0	0	0	0	0
Conestoga, Berwyn, PA	1	0	0	0	0	0	0	0	0	0	0
Riverside, Durham, NC	1	0	1	0	0	0	0	0	0	0	0
Mountain View, Mountain View, CA	1	0	0	0	0	0	0	0	0	0	0
Hopkinton, Hopkinton, MA	0	0	0	0	0	0	0	0	0	0	0
Menchville, Newport News, VA	1	1	0	0	0	0	0	0	0	0	0
Highland, Salt Lake City UT	0	0	0	0	0	0	0	0	0	0	0
Cuyahoga Heights, Cuyahoga Heights, OH	0	0	0	0	0	0	0	0	0	0	0
Tucker, Tucker, GA	0	0	0	0	0	0	0	0	0	0	0
Towson, Towson, MD	0	0	0	0	0	0	0	0	0	0	0
Wheaton North, Wheaton, IL	0	0	0	0	0	0	0	0	0	0	0
White Station, Memphis, TN	1	0	1	0	0	0	0	0	0	0	0
Sherwood, Sandy Spring, MD	0	0	0	0	0	0	0	0	0	0	0
St. Augustine, St. Augustine, FL	1	1	1	0	0	0	0	0	0	0	0
Brea Olinda, Brea, CA	0	0	0	0	0	0	0	0	0	0	0
Corona del Mar, Newport Beach, CA	0	0	0	0	0	0	0	0	0	0	0
Blind Brook, Rye Brook, NY	0	0	0	0	0	0	0	0	0	0	0
Pleasantville, Pleasantville, NY	0	0	0	0	0	0	0	0	0	0	0
Bella Vista, Fair Oaks, CA	1	0	1	0	0	0	0	0	0	0	0
Cape Elizabeth, Cape Elizabeth, MA	0	0	0	0	0	0	0	0	0	0	0
Farragut, Knoxville, TN	0	0	0	0	0	0	0	0	0	0	0

Appendix F - Top Schools Sample Data, cont.

High School Name	Evidence noted 0-no; 1-yes	Audio & Podcasting	Blogs	Calendars & Task Mgmt	Drawing, Charting & Mapping	Photo/ Photo Sharing	Portal/ Webpage Starting Tools	Presentation	Quiz & Polling	RSS, News Feeds & Aggregators	Social Bookmarking
Grand Island, Grand Island, NY	0	0	0	0	0	0	0	0	0	0	0
Pine Creek, Colorado Spring, CO	0	0	0	0	0	0	0	0	0	0	0
Gunn, Palo Alto, CA	0	0	0	0	0	0	0	0	0	0	0
Vanguard, Ocala, FL	0	0	0	0	0	0	0	0	0	0	0
Taravella, Coral Springs, FL	0	0	0	0	0	0	0	0	0	0	0
Sammamish, Bellevue, WA	0	0	0	0	0	0	0	0	0	0	0
Fairfax, Fairfax, VA	0	0	0	0	0	0	0	0	0	0	0
Evidence Noted	23	3	14	0	0	1	2	1	1	1	0

Appendix F - Top Schools Sample Data, cont.

High School Name	Social Networks	Video & Video Sharing	Wikis	Word Processing & Productivity	Other	Notes
Lake Highlands, Dallas, TX	0	0	0	0		
Douglas Macarthur, San Antonio, TX	0	0	0	0		
Pierson, Sag Harbor, NY	0	0	0	0		
Broadneck, Annapolis, MD	0	0	0	0		
Massapequa, Massapequa, NY	0	0	0	0		
Corcoran, Syracuse, NY	0	0	0	0		
Westminster, Westminster, CA	0	0	0	0		
Berkeley, Berkeley, CA	0	0	0	0		
Robinson Secondary, Fairfax, VA	0	0	0	0		
Riverbend, Fredericksburg, VA	0	0	0	0		dropdown
Half Hollow Hills East, Dix Hills, NY	0	0	0	0		
Elk Grove, Elk Grove, CA	0	0	0	0		dropdown
Las Lomas, Walnut Creek, CA	0	0	0	0		
Chantilly, Chantilly, VA	0	0	0	0		
Greenville, Greenville, SC	0	0	0	0		dropdown
Northwest, Justin, TX	1	0	0	0		
East Brunswick, East Brunswick, NJ	0	0	0	0		
Broad Run, Ashburn, VA	0	0	0	0		
Lahser, Bloomfield Hills, MI	0	0	0	0		
Viewmont, Bountiful, UT	0	0	0	0		
Richard Montgomery, Rockville, MD	0	0	0	0		
Brackenridge, San Antonio, TX	0	0	0	0		dropdown
Gaither, Tampa, FL	0	0	0	0		
Middletown, Middletown, MD	1	0	0	0		
Walter Johnson, Bethesda, MD	0	0	0	0		
Rampart, Colorado Springs, CO	0	0	1	0		
D'Evelyn, Denver, CO	0	0	0	0		dropdown
Bronxville, Bronxville, NY	0	0	0	0		
Osborn Park, Manassas, VA	0	0	0	0		
John Hersey, Arlington Heights, IL	0	0	0	0		
Sleepy Hollow, Sleepy Hollow, NY	0	0	0	0		

Appendix F - Top Schools Sample Data, cont.

High School Name	Social Networks	Video & Video Sharing	Wikis	Word Processing & Productivity	Other	Notes
Frank W. Cox, Virginia Beach, VA	0	0	0	0		
Willowbrook, Villa Park, IL	0	0	0	0		
Boise, Boise, ID	0	0	0	0		
Atholton, Columbia, MD	0	0	0	0		
Olentangy, Lewis Center, OH	0	0	0	0		
Riverview, Sarasota, FL	0	0	0	0		
San Bernardino, San Bernardino, CA	0	0	0	0		dropdown
Roswell, Roswell, GA	0	0	0	0		dropdown
Lexington, Lexington, MA	0	0	0	0		dropdown
Lawrence D. Bell, Hurst, TX	0	0	0	0		
Irvine, Irvine, CA	0	0	0	0		
Eastchester, Eastchester, NY	0	0	1	0		
Washington, Sioux Falls, SD	0	0	0	0		
Dakota, Macomb, MI	0	0	0	0		
Victor Central, Victor, NY	0	0	0	0		
Theodore Roosevelt, San Antonio, TX	0	0	0	0		
Skaneateles, Skaneateles, NY	0	0	0	0		
Newman Smith, Carrollton, TX	0	0	0	0		dropdown
Wylie E. Groves, Beverly Hills, MI	0	0	0	0		
Mahopac, Mahopac, NY	0	0	0	0		
Cypress, Cypress, CA	0	0	0	0		
Grayson, Loganville, GA	0	0	0	0		
South Side, Rockville Centre, NY	0	0	0	0		
New Paltz Central, New Paltz, NY	0	0	0	0		
Pinnacle, Phoenix, AR	0	0	0	0		
University City, San Diego, CA	0	0	0	0		dropdown
Falls Church, Fairfax, VA	0	0	0	0		
Satellite, Satellite Beach, FL	0	0	0	0		
Reseda, Reseda, CA	0	0	0	0		
Kamiak, Mukilteo, WA	0	0	0	0		
Shoreham-Wading River, Shoreham, NY	0	0	0	0		

Appendix F - Top Schools Sample Data, cont.

High School Name	Social Networks	Video & Video Sharing	Wikis	Word Processing & Productivity	Other	Notes
Central, Springfield, MO	0	0	0	0		
Wayne Hills, Wayne, NJ	0	0	0	0		
Chatsworth, Chatsworth, CA	0	0	0	0		
Arthur L. Johnson, Clark, NJ	0	0	0	0		
Apopka, Apopka, FL	0	0	0	0		
University, Los Angeles, CA	0	0	0	0		
Eastern Guilford, Gibsonville, NC	0	0	0	0		
Inglemoor, Kenmore, WA	1	0	0	0		
Sachem East, Farmingville, NY	0	0	0	0		
Odyssey Academy, Rochester, NY	0	0	0	0		
Benjamin Franklin, New Orleans, LA	0	0	0	0		dropdown
Conestoga, Berwyn, PA	0	0	1	0		
Riverside, Durham, NC	0	0	0	0		
Mountain View, Mountain View, CA	0	0	1	0		
Hopkinton, Hopkinton, MA	0	0	0	0		dropdown
Menchville, Newport News, VA	0	1	1	0		dropdown
Highland, Salt Lake City UT	0	0	0	0		
Cuyahoga Heights, Cuyahoga Heights, OH	0	0	0	0		
Tucker, Tucker, GA	0	0	0	0		
Towson, Towson, MD	0	0	0	0		
Wheaton North, Wheaton, IL	0	0	0	0		dropdown
White Station, Memphis, TN	0	0	0	0		
Sherwood, Sandy Spring, MD	0	0	0	0		
St. Augustine, St. Augustine, FL	0	0	0	0		
Brea Olinda, Brea, CA	0	0	0	0		dropdown
Corona del Mar, Newport Beach, CA	0	0	0	0		
Blind Brook, Rye Brook, NY	0	0	0	0		
Pleasantville, Pleasantville, NY	0	0	0	0		dropdown
Bella Vista, Fair Oaks, CA	0	0	0	0		dropdown
Cape Elizabeth, Cape Elizabeth, MA	0	0	0	0		
Farragut, Knoxville, TN	0	0	0	0		

Appendix F - Top Schools Sample Data, cont.

High School Name	Social Networks	Video & Video Sharing	Wikis	Word Processing & Productivity	Other	Notes
Grand Island, Grand Island, NY	0	0	0	0		
Pine Creek, Colorado Spring, CO	0	0	0	0		
Gunn, Palo Alto, CA	0	0	0	0		
Vanguard, Ocala, FL	0	0	0	0		
Taravella, Coral Springs, FL	0	0	0	0		
Sammamish, Bellevue, WA	0	0	0	0		
Fairfax, Fairfax, VA	0	0	0	0		dropdown
Evidence Noted	3	1	5	0		

Appendix G – Valenza Sample Data

High School Name	URL of HS Homepage	Library link on school home page	URL of Library Homepage	Audio & Podcasting	Blogs
Carthage Senior High School, Carthage, MO 2/2	http://www.carthage.k12.mo.us/hs/	1	http://www.carthage.k12.mo.us/hs/media/default.htm		
Glennie Information Resource Center, Queensland, AU 2/2	http://www.glenzie.qld.edu.au/page/view.php?par=1	0	URL in Valenza article no longer exists, no link to library website on school home page, Google search found no useful links.		
Greece Athena Middle/High School, Greece, NY 2/2	http://web001.greece.k12.ny.us/athens-high.cfm	1	http://web001.greece.k12.ny.us/webpages/athenslibrary/		
Hunterdon Central High School Instructional Media Center, Flemington, NJ, 2/4	http://www.hcrhs.k12.nj.us/	1	http://central.hcrhs.k12.nj.us/imc/	HCRHS Archives - podcast about what the archives are	
Lawrence High School Library 2/24	http://lhs.usd497.org/	1	http://library.lhs.usd497.org/home.html	link to student podcast posted to local newspaper,	LHS Library Book Reviews, 7 contributors - no way to tell if they are students or staff, 2 comments in past year
New Trier Township High School Library 2/14	http://www.newtrier.k12.il.us/	1	http://www.newtrier.k12.il.us/page.aspx?id=7100		1. link - "Library Blog - Web 2.0" - "New Trier Library Blog" - about web 2.0 tools and how they may change teaching and learning - 92 Facebook "fans" linked to the blog, few comments, appears aimed at teachers, contributors - librarians; 2. link - "Tell It Like It Is" blog - mostly book reviews but some award announcements, links to authors interviews - 10 contributors, all appear to be library staff; 3. link - "Abe Lincoln Books" - blog about Abe Lincoln Book Awards - book descriptions, comments by about 4 different unidentified people; 4. New Trier Curricular Technology Blog - under Info Lit--Copyright - maintained by technology staff developer, discusses technology tools and applications for learning, appears aimed at teachers and other professionals (single contributor)

Appendix G – Valenza Sample Data, cont.

High School Name	URL of HS Homepage	Library link on school home page	URL of Library Homepage	Audio & Podcasting	Blogs
Newton North High School Learning Commons 2/14	http://nnhs.newton.k12.ma.us/go/	1	http://nnhs.newton.k12.ma.us/library/		1. link - "Looking for a Good Book?" to library blog called "Library Twitt" - book reviews and recommendations; 2. Library Flash - announcements from the library, "happenings", staff news, new book announcements. Contributors to both - librarian.
Northfield Mount Hermon Library 2/4	http://www.nmhschool.org/	0	http://www.nmhschool.org/academics-library		1. NMH Library Blog - new books, movies, "Lounge Lizard of the Week" - student profile, scrolling through three months showed no comments, blog could be share to other social media, contributors mostly library staff. 2. NMH library uses "LibGuides" - software by Springshare that makes pathfinder-like pages that operate like blogs - you can leave comments, subscribe to an RSS feed for each LibGuide, share the information on other on-line tools (Facebook, Delicious, Digg, etc.), clickable tabs are created to organize the resources, citation information, and assignment links (links often took you to classroom blogs). Each LibGuide has a search box so the student can search the catalog, web, site, or specific guide from that page. Each appear to be created by the librarians and teachers.
University Laboratory High School Library (Uni)	http://www.uni.illinois.edu/	1	http://www.uni.illinois.edu/library/		1. "Gargoyles Loose in the Library" blog - "news & views from the Uni High Library" - posts by "FrancyLibrarian", occasional comments by students and teachers;
Springfield HS Library 2/26	http://www.sdsl.org/shs/	1	http://springfieldlibrary.wikispaces.com/		link to Valenza's professional blog; EduBlog used to archive student videos (under Online Lessons-Language Arts-Homonyms, Personal Pronouns, etc.

Appendix G – Valenza Sample Data, cont.

High School Name	Calendars & Task Mgmt	Drawing, Charting & Mapping	Photo/ Photo Sharing	Portal/ Webpage Starting Tools	Presentation	Quiz & Polling	RSS, News Feeds & Aggregators	Social Bookmarking
Carthage Senior High School, Carthage, MO 2/2								
Glennie Information Resource Center, Queensland, AU 2/2								
Greece Athena Middle/High School, Greece, NY 2/2								
Hunterdon Central High School Instructional Media Center, Flemington, NJ, 2/4						SurveyMonkey - Information Literacy Survey - "closed"		
Lawrence High School Library 2/24		Wordie for Teen Read Week and other promotions			1 History Day Project slideshow with student work; 2 Poetry slideshows showing student work with Mr. Patlerson; 3 2009 teen read week; other links to slideshows that won awards not counted; 4 2009 creative writing open house; Animoto - slideshow embedded in book review blog 5. Annual Report animated slideshow (tool unknown?)			
New Trier Township High School Library 2/14				Used Weebly to create Haiti Resources site.				

Appendix G – Valenza Sample Data, cont.

High School Name	Calendars & Task Mgmt	Drawing, Charting & Mapping	Photo/ Photo Sharing	Portal/ Webpage Starling Tools	Presentation	Quiz & Polling	RSS, News Feeds & Aggregators	Social Bookmarking
Newton North High School Learning Commons 2/14						see word processing		
Northfield Mount Hermon Library 2/4								
University Laboratory High School Library (Uni)			link to flickr page (not student created) in blog post about grammar			see word processing		
Springfield HS Library 2/26		Wordle for book genre posters	2 Springfield Flickr pages - photo gallery and art gallery - Flickr slideshow also embedded into library homepage	PageFlakes - see RSS	1. 2 photo slideshows embedded into the front page of wiki; 2. "Slideshare" used on Avatar Maker wiki to show different ways to make your own avatar. Other slideshows embedded into some wiki pages to demonstrate or instruct. Glogster used on main page and several other pages to create "posters" with embedded links; "VoiceThread" link under Online Lessons/German Art Project; other VoiceThread used in class wikis (no evidence of librarian use?)	1. what's your favorite genre poll embedded in home page - tool is not clear; 2. see word processing	1. TimeSpace: World - interactive news map from Washington Post on home page of wiki; 2. Feedzila news feed on home page; 3. Widgetbox - RSS feed from Philly.com on home page; 4. Pageflakes - web page used as an RSS feed or news organizer (11 tabs for different news needs on same PageFlakes); RSS feeds also embedded into some database pages (Science)	

Appendix G – Valenza Sample Data, cont.

High School Name	Social Networks	Video & Video Sharing	Wikis	Word Processing & Productivity	Other	Notes
Carthage Senior High School, Carthage, MO 2/2						Unified Streaming and other paid services not considered Web 2.0 for our purposes
Glennie Information Resource Center, Queensland, AU 2/2						
Greece Athena Middle/High School, Greece, NY 2/2						Click on "Teacher Project Pages", then click on librarian's name. Name was not identified as librarian, simply as last name. Links under "Podcasting Ideas/Links" took you information on how to podcast but no actual podcasts.
Hunterdon Central High School Instructional Media Center, Flemington, NJ, 2/4			1. "Social Issues in Literature", appears to have input from librarian, teacher and students (edited only by librarian); 2. "Bookworms" wiki - used as a book club - posts by various users but no indication of who those people are or who created the wiki (edits by 3 different users)			pathfinder links to descriptions of many web 2.0 tools and links to tools but those not actually in use were not counted
Lawrence High School Library 2/24	1. library Facebook page (32 fans, starts 11/2009); 2. library Twitter page	Link to LHS "Lip Dub" video on YouTube - school wide student project				under "Project Links" subpages and "Recommended Websites" subpages - links to old websites that won awards were not counted as they were not current.
New Trier Township High School Library 2/14	1. link to Facebook page with a note that it is not a personal page and that Facebook is blocked at the school; 2. link to Twitter account - 113 followers, resource suggestions, tech news, links to news and local events; 3. LibraryThing - link used to embed book suggestions, reading lists into blog, web or wiki pages.					Link to David Lee King's blogpost describing what you can do with Facebook (not counted); under Reading and Literature - links to best literature blogs (not counted); under information literacy - Minds to Inquire - links to 9 library/education blogs (including New Trier); 6 twitter pages, link to AASL wiki (not counted)

Appendix G – Valenza Sample Data, cont.

High School Name	Social Networks	Video & Video Sharing	Wikis	Word Processing & Productivity	Other	Notes
Newton North High School Learning Commons 2/14	1. "Library Twitt" link to Twitter account - @librarytwitt - event info, book suggestions, web links, comments on pop culture; 2. LibraryThing - link under "What Mrs. Johns is Reading" - personal book lists 3. Library Twitt blog could be "followed" on Google Friend Connect.	1. Under Student Work - History Dept. links to Youtube videos done by students	1. NNHS Senior Year Project wiki - posts and discussions by students (edits by 2 users); 2. NNHS Library Sandbox - class wiki created for Human Body course - created by librarian, encourages students to post research - 52 wiki members (edits by many users)	Online question using Google Docs - fill in fields to answer question;	link to GoodReads (social network) and Glassbooth (online survey/political info) - not counted because not used by librarian;	1. Under "Close Up" - link to blog with class assignments - posts only, no comments, no way of telling who the author is; NNHS website allows you to set up an account and log in if you are a student with a student id; user is allowed to "rate" each web page, regardless of whether they are logged in or not.
Northfield Mount Hermon Library 2/4	1. Library Twitter account - 44 followers; 2. Library Facebook page - from link on blog - 82 members;			Use of Google Docs to show promotional slideshow;		Note - link to library was not on home page but under "Academics"; School has its own social network page (NMHBook), Facebook and Flickr accounts which you could connect to from the library page and the school home page. Not counted as there was no way of telling if this is used by the librarian. School library link was not on school website homepage - must click on "Academics" link to find library webpage link.
University Laboratory High School Library (Uni)	1. UniHighLibrary on Twitter - 22 following; 2. LibraryThing - link under "Graphic Novel Collection"	embedded YouTube and Vimeo videos in blog posts, no student work	1. Uni Reads - recommended reading, student favorites - some student reviews but none in the last year - access to edit or comment only by request.	1. Google Spreadsheet used to take "Survey of Internet Use", under "computer literacy" link		Some use of wikis by other teachers and accessible through the "Class Projects" link (not counted)
Springfield HS Library 2/26	1. Twitter - STHSLibrary; Global Studies Ning;	YouTube and TeacherLibrarianNet work videos imbedded into wiki pages to demonstrate/ instruct, student-created videos under "Online Lessons" (posted to school video archive at EduBlog)	1. Library website is now a wiki with link to traditional website for users to choose, links take you to different wiki pages; in total 16 separate wikis were created under different topics; subpages of those wikis were not counted as separate. A wiki was counted as separate when the home URL changed. Small number of discussions, most edits done by Valenza although a few other editors noted. Not clear whether edits were done by students.	1. Google Spreadsheet used to poll votes for Senior Award Nominees, 2. to show library calendar, 3. to provide form to suggest library materials, 4. questionnaire for teachers to request TOC service;	1. BookBox - "widget" to allow you to embed book pictures into wiki page; 2. multiple widgets built into Reference wiki;	Links to wikis used by other classes on "Online Lessons" page and "Pathfinders"; podcasts of Valenza's professional presentations only